

# SUDIP MISRA

FIEEE, FAAIA, FNAE, FNASc, FIET (UK), FBCS (UK), FRSPH (UK), FIETE, FFAST

Professor & INAE Abdul Kalam Technology Innovation National Fellow

Department of Computer Science and Engineering

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## SUMMARY

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- Authored over **550 publications** (including **342 journal papers**, **166 conference papers**, **7 fully authored books**, **15 filed patents**).
- Won several **academic/research awards** at the National/International levels.
- Won **13 research paper awards**, two of which are *single-authored*.
- Invited as Editor/Associate Editor of many IEEE Transactions/Journals.
- Invited for **keynote lectures** in over 50 international conferences held in North America, Europe, Asia and Africa.
- Invited as *General Chair, Program Chair, Publications Chair, Publicity Chair, and Session Chair* in many conferences.

## RESEARCH INTERESTS

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- Internet of Things (IoT)
- Artificial Intelligence Applications

## FELLOWSHIP of ACADEMIES/PROFESSIONAL BODIES

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- *Fellow*, West Bengal Academy of Science and Technology (WAST), 2023.
- *Fellow*, Institute of Electrical and Electronics Engineers (IEEE), 2022.
- *Fellow*, Asia-Pacific Artificial Intelligence Association (AAIA), 2022.
- *Fellow*, Indian National Academy of Engineering (INAE), 2020.
- *Fellow*, National Academy of Sciences India (NASI), 2017.
- *Fellow*, Institution of Engineering and Technology (IET), UK, 2018.
- *Fellow*, British Computer Society (BCS), UK, 2019.
- *Fellow*, Royal Society of Public Health (RSPH), UK, 2018.
- *Fellow*, Institution of Electronics and Telecommunications Engineers (IETE), India, 2018.

## AWARDS/HONOURS RECEIVED

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- **ACM Outstanding Contributions to Computing Education Award (OCCE 2023)**, Association of Computing Machinery (ACM) India, 2023.
- Received “**Best Paper Award**”, IEEE GLOBECOM 2023, SAC Tracks, Kuala Lumpur, 2023.
- Received the “**MS Ramanujam Lecture Award**”, Institution of Engineers India (IEI), Annual National Convention of Computer Engineers, Salem, 2023.

- Received the “**Best Conference Paper Award**”, IEEE Communications Society e-Health Technical Committee, 2022.
- Received the “**Excellent Editor**” recognition of the IEEE Transactions on Network Science and Engineering (TNSE), December 2022.
- Received the “**Faculty Excellence Award**” of IIT Kharagpur at the Professor level, 2022.
- Received the **IEEE India Council Outstanding Volunteer Award**, 2021.
- Named as **ACM Distinguished Member**, 2020.
- Received the **IEEE TCSC Award for Excellence in Scalable Computing (Mid-Career Researcher)**, 2020.
- Selected as **IEEE ComSoc Distinguished Lecturer**, 2020-2021.
- Received the **2020 IEEE Systems Journal Best Paper Award** for the paper entitled “MEGAN: Multipurpose Energy-Efficient, Adaptable, and Low-Cost Wireless Sensor Node for the Internet of Things”.
- Received the **2020 IEEE Systems Journal Best Paper Award** for the paper entitled “RILoD: Reduction of Information Loss in a WSN System in the Presence of Dumb Nodes”.
- Recipient of the highly prestigious National Award, **INAE-DST “Abdul Kalam Technology Innovation National Fellowship”**, 2019, in recognition of his ‘outstanding translational research in Internet of Things and Wireless Sensor Networks as well as for his leadership role in the growth of the engineering profession in India’.
- Received the **2019 IEEE Systems Journal Best Paper Award** for the paper entitled “Soft-WSN: Software-Defined WSN Management System for IoT Applications”.
- **Best Poster Award** on “Development of robotic precision planter” at the XIV Agricultural Science Congress on “Innovations for Agricultural Transformation” held at National Agricultural Science Complex, New Delhi, during February 20-23, 2019.
- Received the **2018 IEEE Systems Journal Best Paper Award** for our paper entitled “Learning Automata-Based Fault-Tolerant System for Dynamic Autonomous Unmanned Vehicular Networks”.
- Received the **Careers360 “Outstanding Faculty Award”** in Computer Science for the year 2018 from the Honourable Minister for Human Resource Development, Mr. Prakash Javdekar, based on the h-index, citations, number of papers published during 2015-2017.
- The **GYTI Award – 2018**, which was received from the **President of India** for the socially relevant innovation “Batteryless IoT Sensing Node”, was guided by him. It can be used by farmers for monitoring agricultural field parameters.
- Received the “**Faculty Excellence Award**” of IIT Kharagpur at the Associate Professor level, 2017.
- Received the “**UGC-UKIERI Thematic Partnership Award**” awarded by UK-India Education and Research Initiative (UKIERI) for our project entitled “SAFE: Secure and Usable IoT Ecosystem”, April 2017.
- Received the **2<sup>nd</sup> Prize** in **IBM Day Product Demo** at IIT Kharagpur, on September 24, 2016, for the exhibit “Batteryless Sensing for IoT”.
- Received the **Distinguished Service Award** in IEEE CITS 2016, July 6-8, Kunming, China
- Won the **Best Paper Award** in IEEE CITS 2015, Gijon, Spain, July 15-17, 2015.
- Guided the project “Big-Sensor-Cloud Infrastructural Framework for Persuasive and Pervasive Virtualization of Physical Sensors into Renderable Real-time Services”, which won the “**Honorary Certificate of Appreciation**” at the **IEEE Communications Society 2014 Student Competition** for being adjudged as one of the best 9 projects worldwide.
- Won the **3<sup>rd</sup> Prize** in **Samsung Innovation Awards 2014** for the product Big-Sensor-Cloud. The award was judged based on the “degree of innovation, feasibility, usability, relevance and market impact”. The award ceremony was held on October 28, 2014 at IIT Kharagpur.

- Won the **IETE-Biman Behari Sen Memorial Award-2014**. Given by the Institution of Electronics and Communication Engineers (IETE), India, in recognition of “valuable contribution on a wide range of fundamental and applications oriented problems in emerging communication network technologies”.
- Won the **Best Paper Award** in IEEE HEALTHCOM 2013, Lisbon, Portugal, October 2013.
- Won the **Best Paper Award** in CITS 2013 (Computer Systems Track), Piraeus-Athens, Greece, May 7-8, 2013.
- Won the **IEEE ComSoc Asia Pacific Outstanding Young Researcher Award**, 2012. Awarded during IEEE GLOBECOM 2012, Anaheim, California, USA.
- Was felicitated by Director, IIT Kharagpur, in a ceremony named “The Court” held at IIT Kharagpur in April 2012, for his **distinction in research** during the past year.
- Won the **Young Systems Scientist Award**, Systems Society of India (SSI), 2010. Awarded at Surathkal, India.
- Won the **Humboldt Fellowship Award**, Alexander von Humboldt Foundation, Germany, 2010-2011.
- Won the **Young Scientist Platinum Jubilee Award** in Physical Sciences of the National Academy of Sciences, India (NASI), 2010. Awarded at Jaipur, India.
- Won the **Young Engineers Award**, The Institution of Engineers (India), 2010. Awarded at Bangalore, India.
- Won the **First Best Paper Award** in the 7<sup>th</sup> ACS/IEEE AICCSA International Conference, Rabat, Morocco. (2009).
- Was conferred **The National Academy of Sciences, India – Swarna Jayanti Puraskar (Golden Jubilee Award) 2008**. Awarded at Chandigarh, India.
- Won the extremely prestigious **(Canadian) Governor General’s Academic Gold Medal**. This award was given at Carleton University on behalf of the Governor General of Canada for distinguished academic and research contributions (2006).
- Won the prestigious **University Medal for Outstanding Graduate Work**. This award is given at Carleton University to the best PhD student from all disciplines in the University (2006).
- Selected as one of top three finalists of the very prestigious **OCRI Student Researcher of the Year Award** (2006).
- Recipient of the prestigious and highly competitive **NSERC Post-Doctoral Fellowship**, Natural Sciences and Engineering Council of Canada, tenable for 2 years (2006-2007).
- Recipient of **Best Technical Paper Award** (Communications Session), ICUE 2004, Toronto, Canada (2004).
- Recipient of **ACM SIGART/AAAI Doctoral Consortium Travel Award**, San Jose, California, USA (2004).
- Recipient of **Best Paper Award Nomination**, IEA/AIE 2004, Ottawa, Canada (2004).
- Recipient of **Outstanding Student Paper Award**, BIS 2003, Colorado, USA (2003).
- Recipient of the **Science Aptitude and Talent Search Certificate**, India (1988).
- Recipient of the **Best Scientific Model Award** at the Indian Institute of Technology (IIT), Kharagpur (1991).
- Selected for the State Level competition of the National Talent Search Examination, India (1992).
- Recipient of prize and certificate in Eureka Science Competition, IIT Kharagpur (1990).
- Awarded certificate in UNESCO general knowledge competition for remarkable performance.
- Awarded Research and Teaching Assistantships based on merit during graduate studies (1997-1999).

## DISTINGUISHED RECOGNITIONS

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- Dr. Misra's paper entitled "Enabling Green Mobile-Edge Computing for 5G-Based Healthcare Applications", is featured in the list of **Popular Articles** in IEEE Transactions on Green Communications and Networking (TGCN), October 2021.
- Dr. Misra's paper entitled "VIVID: In Vivo End-to-End Molecular Communication Model for COVID-19", is featured in the list of **Popular Articles** in IEEE Transactions on Molecular, Biological and Multi-Scale Communications (TMBMSC), October 2021.
- Dr. Misra's paper entitled "Blockchain at the Edge: Performance of Resource-Constrained IoT Networks", is featured in the list of **Popular Articles** in IEEE Transactions on Parallel and Distributed Systems (TPDS), October 2021.
- Dr. Misra's paper entitled "Timed Loops for Distributed Storage in Wireless Networks", is featured in the list of **Popular Articles** in IEEE Transactions on Parallel and Distributed Systems (TPDS), October 2021.
- The AmbuSens system (<http://AmbuSens.iitkgp.ac.in>) developed by Dr. Misra has recently received lot of media attention. It was reported in **ETV-Bangla** television channel, and also in [Times of India](#), [Hindustan Times](#), [Deccan Herald](#), [Indian Express](#), [Economic Times](#), [Eenadu](#), and [Business Standard](#) during June 2-3, 2017.
- Dr. Misra's indigenously developed technology, BHIM, is a low-cost **autonomous** unmanned aerial drone, which can be further developed to be used during **natural disasters and military operations**. (cf. [The Hindu](http://www.thehindu.com/todays-paper/tp-national/tp-otherstates/iitkgp-develops-low-cost-unmanned-drone/article17411238.ece), <http://www.thehindu.com/todays-paper/tp-national/tp-otherstates/iitkgp-develops-low-cost-unmanned-drone/article17411238.ece>).
- Dr. Misra's paper entitled "Assessment of the Suitability of Fog Computing in the Context of Internet of Things", is featured in the list of **Most Popular Articles** in IEEE Transactions on Cloud Computing for 25 straight months (Oct. 2015 - till date). It is also listed as the **Second Most Popular Article** in IEEE TCC for nine months.
- Dr. Misra's paper entitled "Theoretical Modeling of Fog Computing: A Green Computing Paradigm to Support IoT Applications", listed as '**The Most Popular Article**' in IET Networks for 14 straight months (Apr. 2016 - May 2017) and July 2017.
- Dr. Misra's paper entitled "Cloud Computing Applications for Smart Grid: A Survey", published in the IEEE Transactions in Parallel and Distributed Systems, is **listed as one of the 50 Most Popular Articles by the Journal**.
- Dr. Misra's paper entitled "Wireless Sensor Networks for Agriculture: The State-of-the-Art in Practice and Future Challenges", published in Computers and Electronics in Agriculture (Elsevier), is one of the **most downloaded articles** of the Journal, as on May 2016.
- Dr. Misra's paper, entitled "SMART-EVAC: A Big Data-based Decision Making System for Emergency Evacuation", was adjudged as the **Featured Article** of IEEE Cloud Computing in the May/June 2015 issue.
- News item on S. Misra and his award on Big-Sensor-Cloud appeared in several newspapers (such as **Times of India**, **Telegraph**, **MoneyLife**, and **Business Wire India News**) on October 30, 2014.
- **S. Misra**, N. Islam, J. Mahapatro, J. J. P. C. Rodrigues, "Green Wireless Body Area Nanonetworks: Energy Management and the Game of Survival", **IEEE Journal of Biomedical and Health Informatics**, Vol. 18, No. 2, pp. 467-475, 2014. [**Selected as IEEE Communications Society "Best Readings" paper**].
- Was invited as the **Chief Guest** for Inaugurating the DRDO-sponsored National Seminar on "Language based formal methods and verification techniques for security", held at National Engineering College, Tamil Nadu, India, August 2-3, 2013. News item featured in the **Defence Research & Development Organisation (DRDO) Newsletter**, Vol. 33, No. 10, 2013,

Page 8. Also, appeared in **Indian Express Newspaper**, dated August 4, 2013, Page 2.

- Dr. Misra's paper entitled "A Simple, Least-Time, Energy-Efficient Routing Protocol with One-Level Data Aggregation for Wireless Sensor Networks", *Journal of Systems and Software* (Elsevier), Vol. 83, No. 5, 2010, pp. 852-860, listed among **Top 25 Hottest Papers** of the Journal published between April-June 2010.
- Dr. Misra's paper entitled "Security in Mobile Ad-Hoc Networks Using Soft Encryption and Trust-Based Multi-Path Routing", *Computer Communications* (Elsevier), Vol. 31, No. 4, 2008, pp. 760-769, listed among **Top 25 Hottest Papers** of the Journal published between January-March, 2008.
- Dr. Misra's paper entitled "UWSim: An Underwater Sensor Network Simulator", published in the *SIMULATION: Transactions of the Society for Modeling and Simulation International*, **ranked No. 12 in the 50 Most-Frequently Read Articles** in the 84 volumes of the Journal, according to the October 2008 statistics.
- Dr. Misra's paper entitled "REEP: A Data-Centric, Energy-Efficient and Reliable Routing Protocol for Wireless Sensor Networks", published in the *IET Communications Journal* (formerly, *IEE Proceedings in Communications*), has been adjudged as the **Featured Paper** in the September 2008 issue of the Journal.
- Dr. Misra's paper entitled "A Secure Data-Centric Scheme for Group-Based Routing in Heterogeneous Ad-Hoc Sensor Networks and Its Simulation Analysis", published in the *SIMULATION: Transactions of the Society for Modeling and Simulation International*, **ranked No. 16 in the 50 Most-Frequently Read Articles** in the 84 volumes of the Journal, according to the July 2008 statistics.
- Article on Dr. Misra published in the *Ottawa Citizen newspaper* on November 4, 2006.
- Referred/named by OCRI as a "*Top Technology Star*" of the Ottawa-Carleton Region in 2005-2006.

## JOURNAL EDITORSHIP

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### EDITORIAL BOARD ACTIVITIES

- **Associate Editor**, *ACM Distributed Ledger Technologies: Research and Practice* (2024-Present)
- **Associate Editor**, *IEEE Transactions on Network Science and Engineering* (2022-Present)
- **Associate Editor**, *IEEE Internet of Things Journal* (2021-Present)
- **Associate Editor**, *IEEE Network* (2020-Present)
- **Associate Editor**, *IEEE Transactions on Sustainable Computing* (2019-2023)
- **Area Editor**, *Pervasive and Mobile Computing* (Elsevier) (2018-2023)
- **Editor**, *IEEE Transactions on Vehicular Technology* (2018-Present)
- **Associate Editor**, *IEEE Systems Journal* (2018-Present)
- **Associate Editor**, *IEEE Transactions on Mobile Computing* (2016-2023)
- **Associate Editor**, *International Journal of Communication Systems*, John Wiley & Sons. (2007 – Present).
- **Editorial Board Member**, *IET Networks*. (October 2011 – Present).
- **Editorial Board Member**, *IET Wireless Sensor Systems*. (2010 – 2016).
- **Associate Editor**, *Telecommunication Systems Journal* (Springer SBM). (2007 – 2015).
- **Associate Editor**, *EURASIP Journal on Wireless Communications and Networking*, European Association for Signal Processing (EURASIP). (2007 – 2015).
- **Associate Editor**, *Security and Communication Networks* (John Wiley & Sons). (2007 – 2015).
- **Editorial Board Member**, *IET Communications* (2008–2012) [Tenure complete in April 2012].

- **Editorial Board Member**, Computers & Electrical Engineering Journal (Elsevier). (2007–2012) [Tenure complete in April 2012].
- **Editorial Board Member**, Journal of High Speed Networks (IOS Press, Netherlands). (2007–2011) [Resigned in May 2011].

#### GUEST EDITORIAL ACTIVITIES

- **Guest Editor**, IEEE Journal on Selected Areas in Communications, “Edge-Based Wireless Communications Technologies to Counter Communicable Infectious Diseases”, 2021-2022.
- **Lead Guest Editor**, IEEE Transactions on Green Communications and Networking, Special Issue on “Energy-Efficient Reconfigurable Wireless Communication & Networks”, 2021.
- **Lead Guest Editor**, IEEE Internet of Things Journal, Special Issue on “Artificial Intelligence-Based Systems for Industrial Internet of Things and Industry 4.0”, 2021.
- **Guest Editor**, IEEE IoT Magazine, 2020.
- **Co-Guest Editor**, IEEE Communications Magazine, Special Issue on “Ambient assisted living communications”, Vol. 53, No. 1, pp. 24-25, 2015.
- **Lead Guest Editor**, Telecommunication Systems (Springer), “Challenges in next-generation and resource-constrained networks”, Vol. 52, No. 2, 2013.
- **Lead Guest Editor**, Multimedia Tools and Applications Journal (Springer), Special issue on “Multimedia Computing and Its Embedded Systems”, Vol. 56, No. 2, 2012.
- **Lead Guest Editor**, Mathematical and Computer Modelling (Elsevier), “Recent advances in simulation and mathematical modeling of wireless networks”, Vol. 53, Nos. 11-12, 2011.
- **Lead Guest Editor**, Wireless Personal Communications (Springer), Special Issue on “Adaptive Communication in Wireless Networks”, Vol. 56, No. 3, 2011.
- **Lead Guest Editor**, Wireless Communications and Mobile Computing (Wiley), Special Issue on “Wireless Mesh and Other Emerging Wireless Network Technologies”, Vol. 11, No. 5, 2011.
- **Lead Guest Editor**, Security and Communication Networks (Wiley), “Security challenges in emerging and next-generation wireless communication networks”, Vol. 4, No. 9, 2011.
- **Co-Guest Editor**, IEEE Transactions on Systems, Man, and Cybernetics – Part B, Special Issue on “Adaptive and Learning Systems”, Vol. 40, No. 1, 2010.
- **Lead Guest Editor**, IET Communications, Special Issue on “Wireless Ad Hoc Networks”, Vol. 3, No. 5, 2009.
- **Lead Guest Editor**, Computer Communications (Elsevier), Special Issue on “Algorithmic and theoretical aspects of wireless ad hoc and sensor networks”, Vol. 31, No. 4, 2008.

#### CHIEF EDITORIAL ACTIVITIES

- **Editor-in-Chief**, International Journal of Communication Networks and Distributed Systems, Inderscience Publishers, U.K. (2007 – 2017)

#### **DISTINGUISHED LECTURES**

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Delivered over 50 keynote/invited lectures in USA, Canada, Europe, Asia, and Africa.

##### NORTH AMERICA

- **Invited Panel Speaker**, “IoT-Based Healthcare: Impact of 5G & Beyond”, IEEE 5G World Forum, Healthcare & IoT Vertical, October 13-15, 2021.
- **Invited Panel Speaker**: Spoke on “Blockchain for Security in Cyber Physical Systems” in the Panel Discussion Session on “Cyber Security in Cyber Physical Systems”, IEEE ICC 2021 Workshop on “Sensing-as-a-Service for Industrial Cyber Physical Systems”, Montreal (Virtual),

Canada, June 18, 2021.

- **Invited Keynote Lecture**, “5G & Beyond in IoT-Enabled Healthcare: Benefits and Challenges”, IEEE CCNC 2021, Workshop on Traffic Congestion in Beyond 5G/6G Networks, Las Vegas, USA (Virtual Mode), Jan 9-12, 2021.
- **Invited Keynote Lecture**, “Inspirations from Multiple Race Track Athletics for Traffic Engineering in Networks”, World Congress on Engineering and Computer Science (WCECS’07) – International Conference on Communication Systems and Technologies (ICCST’07), San Francisco, California, USA, October 24-26, 2007.
- **Invited Keynote Lecture**, “Inspirations from Multiple Race Track Athletics for Multimedia Communications Traffic Engineering: Opportunities and Challenges”, The Second International Conference on Digital Telecommunications (ICDT 2007), Silicon Valley, California, USA, July 1-6, 2007.
- **Invited Keynote Lecture**, “Biological Inspirations for Cooperation in Ad Hoc Networks and Systems: Opportunities and Challenges”, IEEE 27th ICDCS 2007 Workshop: The IEEE International Workshop on Cooperative Distributed Systems, Westin Harbour Castle, Toronto, Ontario, Canada, June 25-29, 2007.

## EUROPE

- **Invited Keynote Lecture**, “Synergizing IoT with Next-Generation Networks through Virtualization”, IEEE HPSR 2021, Virtualization for Enabling Next-Generation IoT Networks Workshop, June 10, 2021, Paris.
- **Invited Keynote Lecture**, “IoT in Healthcare: From Wearables to Diagnostic Systems”, IEEE Cybermatics Congress, Rhodes, Greece, November 6, 2020.
- **Invited Lecture**, “Jamming in Wireless Sensor Networks”, Department of Informatics, Aristotle University of Thessaloniki, Thessaloniki, Greece, April 4, 2011.
- **Invited Lecture**, “Jamming in Wireless Sensor Networks: Problems and Selected Solutions”, Computer Science and Communications Research Unit, Université du Luxembourg, Luxembourg, February 25, 2011.
- **Invited Plenary Lecture**, “Message Security in Mobile Ad Hoc Networks”, WSEAS International Conference on Applied Computer Science (ACS 2007), Venice, Italy, November 21-23, 2007.

## ASIA

- **Keynote Speaker**, “Advances in IoT-Based Healthcare”, 4th International Conference on Smart Systems: Innovations in Computing (SSIC 2023), Manipal University Jaipur, October 26-27, 2023.
- **Invited Talk**, “ML/AI, Cloud Computing, SDN/NFV”, 5G technologies with AI and Cloud, IISc/TalentSprint Talk Series, March-May 2023.
- **Invited Keynote Speaker**, “IoT in Healthcare: From Wearables to Diagnostic Systems”, International Conference on Advanced Communications and Machine Intelligence (MICA 2022), Tamil Nadu, India, December 9-11, 2022
- **Keynote Talk**, “IoT in Healthcare: From Wearables to Diagnostic Systems”, Workshop on Internet of Things: Trends and Applications, Nov 3-5, 2022.
- **Keynote Talk**, “IoT in Healthcare: From Wearables to Diagnostic Systems”, International Conference on Computing, Communication and Learning (CoCoLe), NIT Warangal, October 27-29, 2022.
- **Invited Keynote Speaker**, “IoT: Research Opportunities and Challenges”, Second International Conference on Innovations in Software Architecture and Computational Systems (ISACS 2022), Panihati, Kolkata, July 21-22, 2022

- **Expert Talk**, “IoT: Opportunities and Challenges”, IoT: Foundations, Present, and Future, IIT Ropar High-End Workshop on the Role of Artificial Intelligence in IoT and Wireless Adhoc Networks, May 17, 2022.
- **Invited Keynote Speaker**, “Cross-domain Convergence in IoT”, FDP on Applications on Artificial Intelligence in Industry 4.0, MES College of Engineering, Kuttipuram, Kerala, July 13, 2021.
- **Invited Speaker**, “Internet of Things: Enabling Cross-domain Convergence and Innovation”, ATAL FDP on “Enabling Technologies for Artificial Intelligence, Machine Learning and IoT”, June 21-25, 2021, ZHCET, Aligarh Muslim University, UP, India.
- **Invited Speaker**, “Introduction to IoT and Cross-Domain Convergence in IoT with Sensor-Cloud”, E&ICT FDP on Machine Learning for IoT Applications, June 7, 2021.
- **Invited Expert Speaker**, “Synergizing IoT with 6G: Applications, Challenges, and Scope”, IEEE ComSoc School Series Bangalore, June 10, 2021.
- **Invited Keynote Speaker**, “The Art of Writing Technical Papers on Internet of Things”, FDP on Art of Technical Writing, Maulana Abul Kalam Azad University of Technology, June 1, 2021.
- **Invited Panel Speaker**, “Synergizing IoT with 6G: Applications, Challenges, and Scope”, Joint Workshop by IEEE ComSoc Bangalore Section and IEEE Kharagpur Section, May 8, 2021.
- **Invited Keynote Speaker**, “IoT in Healthcare: Opportunities and Challenges”, International Conference on Next Generation of Internet of Things, Gunupur, Odisha, Feb 5-6, 2021.
- **Invited Panel Speaker**, “ICT for Smart Cities”, IEEE ANTS 2020.
- **Invited Keynote Lecture**, “IoT in Healthcare: Opportunities and Challenges”, IEEE ICIIS 2020, IIT Ropar, November 26-28, 2020.
- **Invited Speaker**, “5G & Beyond in IoT-Enabled Healthcare: Benefits and Challenges”, IEEE 5G World Forum, Vertical Track on “5G Technology that fuels massive IoT Growth”, Bangalore, September 10, 2020.
- **Invited Talk**, “IoT Research @ SWAN Lab”, Doctoral Symposium on Advanced Computing and Security Systems (ACSS), Kolkata, February 28-29, 2020.
- **Invited Talk**, “IoT Research @ SWAN Lab”, Annual Conference of the Computer Society of India, KIIT University, Bhubaneswar, January 2020.
- **Keynote Speaker**, “Cross-domain Convergence in IoT: Opportunities and Research Challenges”, 3rd IEEE International Conference on Telecommunications and Photonics (ICTP), December 28-30, 2019, Dhaka, Bangladesh.
- **Invited Speaker**, “Cross-domain Convergence in IoT: Opportunities and Research Challenges”, 8th International Conference on Pattern Recognition and Machine Intelligence (PreMI), December 17-20, 2019, Tezpur University, Tezpur, India.
- **Invited Speaker**, “Internet of Things: Enabling Cross-domain Convergence and Innovation”, Workshop on Internet of Things, October 15-19, 2019, NIT Mizoram, India.
- **Invited Speaker**, “Internet of Things: Enabling Cross-domain Convergence and Innovation”, Short-term Training Program on Internet of Things, October 9-13, 2019, NIT Jamshedpur, India.
- **Invited Speaker**, “Internet of Things: Enabling Cross-domain Convergence and Innovation”, National Workshop on Internet of Things, September 27-October 4, 2019, Mizoram University, Aizawl, India.
- **Invited Keynote Speaker**, “Internet of Things: Enabling Cross-Domain Convergence and Innovation”, 8th International Congress of Information and Communication Technology (ICICT 2018), Xiamen, China, Jan 27-28, 2018.
- **Invited Speaker**, “Internet of Things: Enabling Cross-domain Convergence and Innovation”, IEEE CONECCT 2018, March 16-17, 2018, Bangalore, India.
- **Invited Keynote Speaker**, “Internet of Things: Hype to Reality”, IEEE CITS, Kunming,

China, July 6-8, 2016.

- **Invited Talk**, “Internet of Things: Hype to Reality”, University of Electronic Science and Technology, Chengdu, China, July 8, 2016.
- **Invited Talk**, “Building Internet-of-Things with Cloud and Big Data”, International Workshop on Cloud and Big Data, Nanyang Technological University (NTU), Singapore, Sept. 21-22, 2015.
- **Invited Talk**, “Recent Research Advances in Wireless Sensor Networks”, Faculty Development Program on Pervasive and Mobile Computing, National Institute of Technology (NIT), Warangal, India, Nov 24 – December 3, 2015.
- **Invited Talk**, “Big-Sensor-Cloud: A Paradigm Shift in Sensor Networking & Convergence Towards IoT”, India Research Network (IRN) Meeting on Internet of Things (IoT), Samsung R&D, Bangalore, India, December 1, 2014.
- **Invited Talk**, “Introduction & Applications of Wireless Sensor Networks”, National Workshop on “Wireless Sensor Networks for Health Care and Environmental Monitoring” (WSNHCEM), GMRIT, Rajam, Andhra Pradesh, India, November 14-15, 2014.
- **Invited Talk**, “Virtual Labs on Networking & Software Engineering”, NMEICT Workshop on “Recent Trends in Education System”, NIT Uttarakhand, India, November 29-30, 2014.
- **Keynote Speaker**, “Opportunistic Mobile Networks: Challenges and Research Trends”, 2nd National Conference on Innovative and Emerging Technologies (NCIET - 2014), Gujarat, India, January 3, 2014.
- **Invited Lecture**, “Recent Research Trends in Underwater Sensor Networks”, National Seminar on “Wireless Sensor Networking: The Recent Challenges”, Bhubaneswar, India, December 13, 2013.
- **Expert Lecture**, “Opportunistic Mobile Networks: Challenges and Research Trends”, Advanced Wireless Communications and Networking Workshop, NIT Durgapur, India, Oct. 29, 2013.
- **Invited Speaker**, “Research Trends in Underwater Sensor Networks”, National Workshop on Wireless Sensor Network Applications for Environmental Monitoring (WSNAEM’13), Andhra University, Visakhapatnam, India, March 25-26, 2013.
- **Invited Talk**, “Cooperation in Ad Hoc and Sensor Networks”, International Workshop on Ad Hoc Networks, University of Delhi, New Delhi, India, March 5-6, 2012.
- **Invited Talk**, “Research Trends in Wireless Sensor Networks”, National Workshop on Next-Generation Wireless Communication & Networking (WNWCN-2012), Bhubaneswar, India, February 25, 2012.
- **Invited Keynote Speaker**, “Recent Research Trends in Wireless Sensor Networks”, 2nd National Conference on Information and Communication Technology (NCIT 2011), Nagpur, India, December 23-24, 2011.
- **Invited Keynote Lecture**, “Recent Research Trends in Wireless Sensor Networks”, 4th International Conference on Recent Trends in Computing, Communication and Information Technologies (ObCom 2011), Vellore, India, December 9-11, 2011.
- **Invited Keynote Address**: “Wireless Sensor and Ad Hoc Networks: Opportunities and Challenges”, International Conference on Recent Advances in Electrical Sciences (ICRAES’10), Tiruchengode, Tamil Nadu, India, January 8-9, 2010.
- **Invited Keynote Address**, “Biological Inspirations for Cooperation in Wireless Ad Hoc and Sensor Networks”, National Conference on Computer Networks (NCCN 2009), Bangalore, Karnataka, India, February 20-21, 2009.
- **Invited Lecture**, “Wireless Ad Hoc and Sensor Networks: Past, Present and Future”, Government Engineering College, Trivandrum, India, 2009.
- **Invited Talk**, “Biological Inspirations for Cooperation in Wireless Ad Hoc and Sensor Networks”, Fourth International Conference on Wireless Communication and Sensor Networks, In-

dian Institute of Information Technology (IIIT), Allahabad, Uttar Pradesh, India, December 26-29, 2008.

- **Invited Keynote Speech**, “Biological Inspirations for Cooperation in Wireless Ad Hoc and Sensor Networks”, National Conference on Wireless Communication and Applications, SV National Institute of Technology (NIT), Surat, Gujarat, India, December 18-19, 2008.
- **Invited Keynote Address**, “Biological Inspirations Driving Research on Wireless Ad Hoc Networks”, International Conference on Computing, Communication and Networking (ICCCN-2008), Karur, Tamil Nadu, India, December 18-20, 2008.
- **Invited Keynote Lecture**, “Learning Automata and Problem Solving in Computer Networks: Opportunities and Challenges”, National Conference on Computational Learning Theory (NCLT-2008), Bhubaneswar, Orissa, India, September 27-28, 2008.
- **Invited Keynote Lecture**, “Inspirations from Multiple Race Track Athletics for Internet Traffic Engineering”, Second International Conference on Resource Utilization and Intelligent Systems (INCRUIS 2008), Erode, Tamil Nadu, India, January 3-5, 2008.
- **Invited Keynote Speech**, “Biological Inspirations Driving Research on Wireless Ad Hoc Networks”, International Conference on Systemics, Cybernetics, and Informatics (ICSCI 2008), Hyderabad, India, January 2-5, 2008.
- **Invited Keynote Lecture**, “Biological Inspirations for Cooperation in Wireless Sensor and Related Ad Hoc Networks”, International Conference on Sensors and Related Networks (SENNET 2007), Vellore, Tamil Nadu, India, December 12-14, 2007.
- **Invited Keynote Address**, “Biological Inspirations for Cooperation in Wireless Ad Hoc and Sensor Networks”, International Conference on Advances in Information and Communication Technologies (ICICOT07), Manipal, Karnataka, India, December 28-30, 2007.
- **Invited Keynote Lecture**, “Wireless Ad Hoc Networks: Past, Present and Future”, 14th International Conference on Advanced Computing and Communications (ADCOM 2006), Mangalore, India.
- **Invited Keynote Lecture**, “Wireless Ad Hoc Networks: Opportunities and Challenges”, International Conference on Mobile, Ubiquitous and Pervasive Computing (ObCom 2006), Vellore, India.

#### AFRICA

- **Invited Keynote Speech**, “Message Security in Mobile Ad Hoc Networks: Using Trust-Based Multi-Path Routing Approach”, International Conference on Computer Engineering and Systems (ICCES'07), Cairo, Egypt, November 27-29, 2007.

#### IEEE COMSOC DISTINGUISHED LECTURES

- “Internet of Things: Challenges and Solutions”, NIT Durgapur, January 2021.
- “UAV Networks: Architectures, Opportunities, Challenges, and Future”, NIT Rourkela, November 2020.
- “IoT in e-Health: From Wearables to Diagnostic Systems”, IEEE Delhi Section, October 2020.
- “IoT in e-Health: From Wearables to Diagnostic Systems”, IEEE Galveston Chapter, USA, October 2020.
- “UAV Networks: Architectures, Opportunities, Challenges, and Future”, IEEE Melbourne Florida Section, USA, October 2020.
- “IoT in e-Health: From Wearables to Diagnostic Systems”, IEEE Pune Section, October 2020.

#### INAE FELLOWSHIP LECTURE

- “IoT Network Adoption in Constrained Environments”, INAE, January 8, 2021.

## CONFERENCE CHAIRMANSHIP

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- **Panel Chair**, **IEEE/ACM international conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE)**, Orlando, Florida, USA, June 21-23, 2023.
- **Publications Chair**, IEEE HealthCom 2022, October 17-19, 2022.
- **Workshop Co-Chair**, **IEEE GLOBECOM 2021 Workshop** “SIGNIS: Softwarized Next Generation Networks for IoT Services Workshop”, December 2021.
- **Technical Program Co-Chair**, IEEE ICIIS 2020, IIT Ropar, November 26-28, 2020.
- **General Co-Chair**, 22nd IEEE HPCC 2020, Fiji, December 14-16, 2020.
- **Workshop Co-Chair**, **IEEE ICC 2020 Workshop** “COVI-COM: Communication, IoT, and AI technologies to counter COVID-19”, June 14-18, 2021, Montreal, Canada.
- **Technical Program Co-Chair**, 15th IEEE ICIIS, IEEE International Conference on Industrial and Information Systems (ICIIS 2020), IIT Ropar, India, November 26-28, 2020.
- **General Co-Chair**, IEEE ANTS 2017, Bhubaneswar, India, December 2017. [IEEE ANTS is a premier conference of the IEEE Communications Society].
- **General Vice Chair**, ICACIE 2017, Central University of Rajasthan, Ajmer, India, November 23-25, 2017.
- **Technical Program Co-Chair**, IEEE ANTS 2016, Bangalore, India, November 2016. [IEEE ANTS is a premier conference of the IEEE Communications Society].
- **Technical Program Co-Chair**, IEEE ANTS 2015, Kolkata, India, December 2015. [IEEE ANTS is a premier conference of the IEEE Communications Society].
- **Program Vice-Chair**, Modeling and Evaluation in Communication Systems Track, 14th IEEE International Conference on Scalable Computing and Communications (ScalCom-2014), Bali, Indonesia, December 9-12, 2014.
- **Technical Program Co-Chair**, The New Internet Symposium (NIS 2013), August 22-24, 2013, Mysore, India. Held in conjunction with the 2nd International Conference on Advances in Computing, Communications and Informatics (ICACCI 2013).
- **Session Chair**, IEEE International Conference on Communications (IEEE ICC’13) – 3rd IEEE International Workshop on Smart Communication Protocols and Algorithms (SCPA 2013), Budapest, Hungary, June 9-13, 2013.
- **Registration Chair**, 4th International Conference on Intelligent Human Computer Interaction (IHCI 2012), Kharagpur, December 2012.
- **General Co-Chair**, International Conference on Security in Computer Networks and Distributed Systems (SNDS 2012), Trivandrum, Kerala, October 2012.
- **Technical Program Co-Chair**, 6th IEEE International Symposium on Wireless Pervasive Computing, Hong Kong, February 16-18, 2011.
- **Tutorial Chair**, 29th IEEE International Symposium on Reliable Distributed Systems (SRDS 2010), November 1-3, 2010, New Delhi, India.
- **Workshop Co-Chair**, 4th International Workshop on Broadband Wireless Internet and Next Generation Networks Access (BWINA 2010), in conjunction with WiMob 2010, October 11-13, 2010.
- **Finance Chair**, 5th International Conference on Information Systems Security (ICISS 2009), Kolkata, India, December 14-18, 2009.
- **Program Co-Chair**, Fourth International Conference on Embedded and Multimedia Computing (EM-Com 2009), Jeju, Korea, December 10-12, 2009.
- **General Co-Chair**, 3rd International Workshop on Broadband Wireless Internet Access (BWIA 2009), Marrakech, Morocco, October 12-14, 2009.

- **Program Vice-Chair**, 2009 International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS 2009), Istanbul, Turkey, July 2009.
- **Track Co-Chair**, ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2009), Pattern Recognition and Image Processing Track, Rabat, Morocco, May 2009.
- **Session Chair**, Optical Communications Sessions, International Conference on Computing, Communication and Networking (ICCCN-2008), Karur, Tamil Nadu, India, December 18-20, 2008.
- **Track Chair**, IEEE Region 10 Colloquium and 3rd International Conference on Industrial and Information Systems (ICIIS 2008), Communications and Information Systems Engineering Track, IIT Kharagpur, December 2008.
- **Registration Chair**, IEEE Region 10 Colloquium and 3rd International Conference on Industrial and Information Systems (ICIIS 2008), IIT Kharagpur, December 2008.
- **General Chair**, 2007 International Workshop on Broadband Wireless Access (BWIA'07), Ottawa, Ontario, Canada, 2007.
- **Publicity Chair**, 15th International Conference on Advanced Computing and Communications (ADCOM 2007), Guwahati, India, 2007.
- **Session Chair**, Performance of Mobile and Wireless Networks Session, International Conference on Mobile, Ubiquitous and Pervasive Computing (ObCom 2006), Vellore, India, 2006.
- **Session Chair**, Routing Session, International Symposium on Ad Hoc and Ubiquitous Computing (ISAHUC'06), Mangalore, India, 2006.
- **Program Chair**, International Symposium on Ad Hoc and Ubiquitous Computing (ISAHUC'06) Mangalore, India, 2006.
- **Publications Chair**, 14th International Conference on Advanced Computing and Communications (ADCOM 2006), Mangalore, India, 2006.
- **Session Chair**, Traffic Engineering Session, 8th International Conference on Telecommunications, IEEE Communications Society, Croatia, 2005.

## EDUCATION

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2002-2006

*Ph.D. (Computer Science)*

School of Computer Science, Carleton University, Ottawa, Ontario, Canada

- Area of Research: Computer Networks.
- External Examiner's Evaluation of the Thesis: "... I believe that the Candidate has contributed more than needed for a Ph.D. degree. This Dissertation is equivalent to dissertations produced by the top universities worldwide. I consider this Dissertation to be one of the best that I have ever evaluated/read".
- Awards: *Canadian Governor General's Academic Gold Medal, University Medal for Outstanding Graduate Work, OCRI Student Researcher of the Year Award* (one of the top three finalists).

1997-2000

*Master of Computer Science*

Faculty of Computer Science, University of New Brunswick, Fredericton, NB, Canada

- Area of Research: Software Testing.

1994-1997

*Bachelor of Science*

Indian Institute of Technology (IIT), Kharagpur, West Bengal, India

## WORK EXPERIENCE

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### CURRENT EXPERIENCE

Feb 2018 – Present

*Professor*

Department of Computer Science & Engineering

Indian Institute of Technology, Kharagpur, West Bengal, India

### PREVIOUS EXPERIENCE

Feb 2013 – Feb 2018

*Associate Professor*

Department of Computer Science & Engineering

(formerly, School of Information Technology)

Indian Institute of Technology, Kharagpur, West Bengal, India

Dec 2007 – Feb 2013

*Assistant Professor*

School of Information Technology

Indian Institute of Technology, Kharagpur, West Bengal, India

Dec 2010 – May 2011  
May 2012 – July 2012  
May 2013 – July 2013  
*Alexander von Humboldt Fellow*  
Department of Informatics  
University of Hamburg, Hamburg, Germany

March 2006 – August 2010  
*Adjunct Professor*  
School of Computer Science  
Ryerson University, Toronto, Ontario, Canada

Oct 2006 – Dec 2007  
*Visiting Fellow*  
Department of Computer Science  
Yale University, New Haven, Connecticut, USA

May 2007 – Aug 2007  
*Instructor*  
Ryerson University, Toronto, Ontario, Canada

Jan 2006 – Sept 2006  
*Visiting Scientist/Researcher*  
Wireless Networks Lab.  
Cornell University, Ithaca, New York, USA

Jan 2006 – Apr 2006  
*Instructor*  
Ryerson University, Toronto, Ontario, Canada

April 2005 – Dec 2005  
*Consultant (IT Architect)*  
ChartWELL, Inc., Toronto, Ontario, Canada

Jan 2005 – Apr 2005  
*Instructor*  
Ryerson University, Toronto, Ontario, Canada

July 2002 – March 2005  
*Information Architect (Jr.)*, Community Services IT Cluster  
*IT Project Management Analyst*, Management Board Secretariat  
*Business/Systems Analyst*, Community Services IT Cluster  
*IT Planning and Architecture Analyst*, Community Services IT Cluster  
*Health Data and Decision Support Analyst*, Ministry of Health and Long Term Care  
Government of Ontario, Toronto, Ontario, Canada

Feb 2001 – Aug 2001  
*R&D Product Support Specialist*, GuestLINK Telecom. System Development  
Atreus Systems Corporation, Ottawa, Ontario, Canada

Aug 1999 – Feb 2001

R&D *Software Designer*, Spectrum SNMP Development

R&D *Software Designer*, PRESIDE Policy Services Development

NORTEL NETWORKS, Ottawa, Ontario, Canada

Feb 1999 – Apr 1999

*System Designer*, Electronic Chargeback System

Graphic Services, University of New Brunswick, Fredericton, New Brunswick, Canada

Jan 1998 – Apr 1999

*Research Assistant*

University of New Brunswick, Fredericton, New Brunswick, Canada

Sept 1997 – Apr 1999

*Teaching Assistant* (various courses in Algorithms, Data Structures, Programming)

University of New Brunswick, Fredericton, New Brunswick, Canada

## TEACHING

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### TEACHING SUMMARY

- **Semester Courses:** 21 Distinct courses taught 61 times at IIT Kharagpur and Ryerson Univ. Toronto.
- **Massive Open Online Courseware (MOOC) Designed and Taught:** 3
- **Continuing Education Programs Conducted:** 6
- **Continuing Education Programs Taught:** 9

### FULL-SEMESTER COURSES

#### Spring 2022

- Computer Networks (CS31006), IIT Kharagpur, India.
- Networks Lab. (CS39006), IIT Kharagpur, India.

#### Autumn 2021

- Ubiquitous Computing (CS60055), IIT Kharagpur, India.
- Programming and Data Structures Lab. (CS19003), IIT Kharagpur, India.

#### Spring 2021

- Cloud Computing (CS60118), IIT Kharagpur, India.
- Programming and Data Structures Lab. (CS19003), IIT Kharagpur, India.

#### Autumn 2020

- Architecture and Protocols for Internet of Things (CS61066), IIT Kharagpur, India.
- Programming and Data Structures Lab. (CS19003), IIT Kharagpur, India.

### **Spring 2020**

- Software Engineering. (CS20006), IIT Kharagpur, India. (Jointly with Prof. D. Samanta)
- Software Engineering Lab (CS29006), IIT Kharagpur, India. (Jointly with Prof. D. Samanta)

### **Autumn 2019**

- Architecture and Protocols for Internet of Things (CS61066), IIT Kharagpur, India.
- Programming and Data Structures Lab. (CS19003), IIT Kharagpur, India.

### **Spring 2019**

- Software Engineering. (CS20006), IIT Kharagpur, India. (Jointly with Prof. D. Samanta)
- Software Engineering Lab (CS29006), IIT Kharagpur, India. (Jointly with Prof. D. Samanta)
- IT Enabled Business Intelligence, VGSoM, IIT Kharagpur, India

### **Autumn 2018**

- Architecture and Protocols for Internet of Things (CS61066), IIT Kharagpur, India
- Embedded Software Design and Validation (AT60003), IIT Kharagpur, India. (Jointly with Prof. C. R. Mondal)

### **Spring 2018**

- Software Engineering (CS20006), IIT Kharagpur, India.
- Software Engineering Lab (CS29006), IIT Kharagpur, India. (Jointly with Prof. R. Mall)

### **Autumn 2017**

- Wireless Ad Hoc and Sensor Networks (IT60119), IIT Kharagpur, India.
- Embedded Software Design and Validation (AT60003), IIT Kharagpur, India. (Jointly with Prof. C. R. Mondal)

### **Spring 2017**

- Software Engineering (CS20006), IIT Kharagpur, India.
- Software Engineering Lab, IIT Kharagpur, India. (Jointly with Prof. D. Samanta).

### **Autumn 2016**

- Wireless Ad Hoc and Sensor Networks (IT60119), IIT Kharagpur, India.
- Programming and Data Structures Tutorial and Lab. (CS19101), IIT Kharagpur, India. (Jointly with Prof. S. P. Pal).

### **Spring 2016**

- Advanced Network Technologies (IT60106), IIT Kharagpur, India.
- Internet and Web-based Technologies (IT60102), IIT Kharagpur, India. (Jointly with Prof. K. S. Rao).
- Internet Technologies Lab (IT60192), IIT Kharagpur, India. (Jointly with Prof. K. S. Rao).

### **Autumn 2015**

- Wireless Ad Hoc and Sensor Networks (IT60119), IIT Kharagpur, India.
- System Design Lab. (IT69103), IIT Kharagpur, India. (Jointly with Prof. R. R. Sahay).

### **Spring 2015**

- Advanced Network Technologies (IT60106), IIT Kharagpur, India.

- Internet and Web-based Technologies (IT60102), IIT Kharagpur, India. (Jointly with Prof. K. S. Rao).
- Internet Technologies Lab (IT60192), IIT Kharagpur, India. (Jointly with Prof. K. S. Rao).

#### **Autumn 2014**

- Wireless Ad Hoc and Sensor Networks (IT60119), IIT Kharagpur, India.
- System Design Lab. (IT69103), IIT Kharagpur, India. (Jointly with Prof. D. Samanta and Prof. R. R. Sahay).

#### **Spring 2014**

- Advanced Network Technologies (IT60106), IIT Kharagpur, India.

#### **Autumn 2013**

- Information System Design (IT60105), IIT Kharagpur, India.
- System Design Lab. (IT69103), IIT Kharagpur, India. (Jointly with Prof. D. Samanta).

#### **Spring 2013**

- Advanced Network Technologies (IT60106), IIT Kharagpur, India.

#### **Autumn 2012**

- Wireless Ad Hoc and Sensor Networks (IT60119), IIT Kharagpur, India.
- Software Engineering (IC80122), IIT Kharagpur, India. (Jointly with Prof. R. Mall).
- System Design Lab. (IT69103), IIT Kharagpur, India. (Jointly with Prof. K. S. Rao).

#### **Spring 2012**

- Advanced Network Technologies (IT60106), IIT Kharagpur, India.
- Seminar (IT68102), IIT Kharagpur, India (Jointly with Prof. K. S. Rao).

#### **Autumn 2011**

- Wireless Ad Hoc and Sensor Networks (IT60119), IIT Kharagpur, India.
- Information System Design (IT60105), IIT Kharagpur, India.
- Software Engineering (IC80122), IIT Kharagpur, India. (Jointly with Prof. R. Mall).
- System Design Lab. (IT69103), IIT Kharagpur, India. (Jointly with Prof. K. S. Rao).

#### **Autumn 2010**

- Wireless Ad Hoc and Sensor Networks (IT60119), IIT Kharagpur, India. (Jointly with Prof. A. Gupta).
- Information System Design (IT60105), IIT Kharagpur, India. (Jointly with Prof. S. K. Ghosh).
- Software Engineering (IC80122), IIT Kharagpur, India. (Jointly with Prof. R. Mall).
- System Design Lab. (IT69103), IIT Kharagpur, India. (Jointly with Prof. S. K. Ghosh).

#### **Spring 2010**

- Advanced Network Technologies (IT60106), IIT Kharagpur, India.

#### **Autumn 2009**

- Wireless Ad Hoc and Sensor Networks (IT60119), IIT Kharagpur, India. (**New course proposed, designed and taught by Dr. Misra first time at IIT Kharagpur**).
- Information System Design (IT60105), IIT Kharagpur, India.

- System Design Lab. (IT69103), IIT Kharagpur, India.

### Spring 2009

- Advanced Network Technologies (IT60106), IIT Kharagpur, India.

### Autumn 2008

- Information System Design (IT60105), IIT Kharagpur, India.
- System Design Lab. (IT69103), IIT Kharagpur, India.

### Spring 2008

- Advanced Network Technologies (IT60106), IIT Kharagpur, India.
- Programming and Data Structures Lab. (CS13002), IIT Kharagpur, India.
- Internet Technology (IT60004), IIT Kharagpur, India.

### 2007

- Logical Database Analysis and Design (CITM 500), Ryerson University, Toronto, Canada.
- Internet Applications Development (CITM 405), Ryerson University, Toronto, Canada.

### 2006

- Internet Applications Development (CITM 405), Ryerson University, Toronto, Canada.
- Systems Analysis and Design (CITM 305), Ryerson University, Toronto, Canada.

### 2005

- Internet Applications Development (CITM 405), Ryerson University, Toronto, Canada.

## SHORT-TERM COURSES

- Course: Network Security – Theoretical and Practical Perspective (Security in Wireless Sensor Networks), Semester: Autumn 2010 (August 2-7, 2010), Duration: 2 hours, Audience: College Faculty, Venue: IIT Kharagpur.
- Course: Programming in C++ and Java, Semester: Summer 2009, Duration: 6 hours theory and 10.5 hours lab., Audience: University students, Venue: IIT Kharagpur.
- Course: Advanced Networking (Network Management Module), Semester: Summer 2009, Duration: 4 hours, Audience: Indian Defence Officers, Venue: IIT Kharagpur.
- Course: Information Security (Internetworking Module), Semester: Autumn 2008, Duration: 3 hours, Audience: Indian Defence Officers, Venue: IIT Kharagpur.
- Course: Advanced Application Security, Semester: Spring 2008, Duration: 4 hours, Audience: Indian Defence Officers, Venue: IIT Kharagpur.
- Course: Advanced Networking (Network Management Module), Semester: Spring 2008, Duration: 4 hours, Audience: Indian Defence Officers, Venue: IIT Kharagpur.

## CONTINUING EDUCATION COURSE ORGANIZATION

- 
- **Coordinator & Instructor**, “Hands-on Introduction to Internet of Things (IoT) with Machine Learning (ML)”, Short term course in Department of Continuing Education & Technology, IIT Kharagpur, Jan 20-Jan 24, 2024.
  - **Coordinator & Instructor**, “Hands-on Introduction to Internet of Things (IoT) with Machine

Learning (ML)”, Short term course in Department of Continuing Education & Technology, IIT Kharagpur, Dec 27-Dec 31, 2023.

- **Coordinator & Instructor**, “Hands-on Introduction to Internet of Things (IoT) with Machine Learning (ML)”, Short term course in Department of Continuing Education & Technology, IIT Kharagpur, July 14-July 18, 2023.
- **Instructor**, “Introduction to Cloud Computing”, Short term course in Center of Excellence in Advanced Manufacturing, IIT Kharagpur, Sep 30-Oct 15, 2023.
- **Coordinator & Instructor**, “Introduction to Computing”, Short term course in Department of Continuing Education & Technology, IIT Kharagpur, April 23-May 13, 2023.
- **Instructor**, “5G & Beyond in Smart Manufacturing”, Short term course in Center of Excellence in Advanced Manufacturing, June 27-July 1, 2022. [Jointly with Prof. Surjya k Pal]
- **Coordinator & Instructor**, “Internet of Things: Theory & Applications”, TEQIP-III, IIT Kharagpur, October 24-28, 2018.
- **Coordinator & Instructor**, “Underwater Sensor Networks: Theory and Simulations”, NPOL, Ministry of Defence, Kochi, April 18-20, 2016.
- **Coordinator & Instructor**, “Internet of Things: Convergence of Sensing, Cloud, and Big Data Networking”, Sponsored by All India Council for Technical Education (AICTE), Government of India, July 13-26, 2015.
- **Coordinator & Instructor**, “Enabling Internet of Things with Cloud and Big Data Networking”, International Summer and Winter Term (ISWT), May 25-June 7, 2015.
- **Coordinator & Instructor**, “Wireless Sensor Networks and Internet of Things”, IIT Kharagpur’s Knowledge Development Programme (KDP) under TEQIP-II, May 11-15, 2015.
- **Coordinator & Instructor**, “Wireless Ad Hoc and Sensor Networks”, Faculty Staff Development Programme, Sponsored by the Ministry of Human Resources Development (MHRD) / All India Council for Technical Education (AICTE), Government of India, February 2-15, 2010.

## OPEN COURSEWARE

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- **Course Instructor**, “Introduction to Industry 4.0 and Industrial Internet of Things”, SWAYAM MOOC, Jan-Apr 2022
- **Course Instructor**, “Introduction to Internet of Things”, SWAYAM MOOC, Jan-Apr 2022
- **Course Instructor**, “Introduction to Industry 4.0 and Industrial Internet of Things”, SWAYAM MOOC, Jul-Oct 2021
- **Course Instructor**, “Introduction to Internet of Things”, SWAYAM MOOC, Jul-Oct 2021
- **Course Instructor**, “Introduction to Industry 4.0 and Industrial Internet of Things”, SWAYAM MOOC, Jan-Apr 2021
- **Course Instructor**, “Introduction to Internet of Things”, SWAYAM MOOC, Jan-Apr 2021
- **Course Instructor**, “Introduction to Industry 4.0 and Industrial Internet of Things”, SWAYAM MOOC, Jul-Oct 2020
- **Course Instructor**, “Introduction to Internet of Things”, SWAYAM MOOC, Jul-Oct 2020
- **Course Instructor**, “Introduction to Industry 4.0 and Industrial Internet of Things”, SWAYAM MOOC, Jan-Apr 2020
- **Course Instructor**, “Introduction to Internet of Things”, SWAYAM MOOC, Jan-Apr 2020
- **Course Instructor**, “Introduction to Industry 4.0 and Industrial Internet of Things”, SWAYAM MOOC, Jul-Oct 2019
- **Course Instructor**, “Introduction to Internet of Things”, SWAYAM MOOC, Jul-Oct 2019
- **Course Instructor**, “Introduction to Industry 4.0 and Industrial Internet of Things”, SWAYAM MOOC, Jan-Apr 2019

- **Course Instructor**, “Introduction to Internet of Things”, NPTEL MOOC, Jan-Apr 2019
- **Course Instructor**, “Introduction to Internet of Things”, NPTEL MOOC, Jul-Oct 2018
- **Course Instructor**, “Wireless Ad Hoc And Sensor Networks”, NPTEL MOOC, Feb-Mar 2018
- **Course Instructor**, “Introduction to Internet of Things”, NPTEL MOOC, Jan-Apr 2018
- **Course Instructor**, “Introduction to Internet of Things”, NPTEL MOOC, Jul-Oct 2017
- **Course Instructor**, “Wireless Ad Hoc And Sensor Networks”, NPTEL MOOC, Jan-Mar 2017
- **Course Instructor**, “Introduction to Industry 4.0 and Industrial Internet of Things”, NPTEL MOOC, Jan-Apr 2019
- **Course Instructor**, “Introduction to Internet of Things”, SWAYAM MOOC, Jan-Apr 2019
- **Course Instructor**, “Introduction to Internet of Things”, SWAYAM MOOC, Jul-Oct 2018
- **Course Instructor**, “Wireless Ad Hoc And Sensor Networks”, SWAYAM MOOC, Feb-Mar 2018
- **Course Instructor**, “Introduction to Internet of Things”, SWAYAM MOOC, Jan-Apr 2018
- **Course Instructor**, “Introduction to Internet of Things”, SWAYAM MOOC, Jul-Oct 2017
- **Course Instructor**, “Wireless Ad Hoc And Sensor Networks”, SWAYAM MOOC, Jan-Mar 2017

## RESEARCH GRANTS

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### Sponsored Projects

1. **Principal Investigator**, “SWAYAM PRABHA”, National Mission on Education Through Information and Communication Technology (NMEICT), Aug 2022 – Present.
2. **Principal Investigator**, “Machine Learning-Based Condition Monitoring at Constrained Edge Devices”, Department of Science and Technology, Grant Amount: INR 1154000, for 2 years, 2023–2025.
3. **Principal Investigator**, “AI for Agriculture and Food Sustainability”, Ministry of Electronic and Information Technology, Grant Amount: INR 131,20,000, for 3 years (2020-2023).
4. **Co-Principal Investigator**, “AI and Virtual Reality Modelling and Collaborative Learning of Risk and Situational Awareness in the Socio-Technical System Under Disruptions”, SERB, Department of Science and Technology, Grant Amount: INR 32,04,300, for 3 years (2021-2024).
5. **Principal Investigator**, “TribeConnect: Integrated Smart Tribal Eco-Platform – A Proof of Concept in Chattisgarh”, Ministry of Electronic and Information Technology, Grant Amount: INR 72,216,000, for 3 years (2020-2023).
6. **Principal Investigator**, “Unified Software-Defined Architecture for Industrial Internet of Things”, IMPRINT-II, Grant Amount: INR 1.359 Cr, for 3 years (2019-2022).
7. **Principal Investigator**, “Ambulatory Sensing and Point-of-Care Recommendation for IoT-Based Healthcare”, Indian National Academy of Engineering, Grant Amount: Rs. 57 Lakhs, for 3 years (2019-2022).
8. **Principal Investigator**, “Fog-City: QoS-Aware Resource Management for Smart Cities”, Indo-French, CEFIPRA, Grant Amount: Rs. 23.144 Lakhs, for 3 years (2018-2021).
9. **Co-Principal Investigator**, “Air Quality Monitoring Prototype”, Ministry of Electronics and Information Technology, Grant Amount: Rs. 101 Lakhs, for 4 years (2018-2022).

10. **Co-Principal Investigator**, “Remote Monitoring and Real Time Control of Defects in Friction Stir Welding Process and Preventive Health Monitoring of Friction Stir Welding Machine”, Department of Heavy Industries and Tata Consultancy Services, Grant Amount: Rs. 64466000, for 5 years (2017-2022).
11. **Principal Investigator**, “SAFE: Secure and Usable IoT Ecosystem”, Indo-UK, UKIERI, Grant Amount: Rs. 68.52 Lakhs, for 3 years (2017-2020).
12. **Principal Investigator**, “Improved Underwater Surveillance Using Experimental Multimedia Sensor Network”, Naval Research Board (NRB), Grant Amount: Rs. 29.97 Lakhs, for 3 years (2017-2020).
13. **Co-Principal Investigator**, “An Integrated Autonomous UAV and WSN-Based System for Crop Management and Crop Condition Monitoring”, MHRD-IMPRINT, Grant Amount: Rs. 195 Lakhs, for 3 years (2017-2020).
14. **Principal Investigator**, “Development of Digital Mine Using Internet of Things”, DeitY, Govt. of India, Grant Amount: Rs. 46.3 Lakhs (2016-2019).
15. **Principal Investigator**, “Development of Cloud Network, Drone Assisted Sprayer”, ICAR, Govt. of India, Grant Amount: Rs. 21.82 Lakhs, for 2 years (2016-2018).
16. **Principal Investigator**, “Development of Robotic Precision Planter”, ICAR, Govt. of India, Grant Amount: Rs. 16.34 Lakhs, for 2 years (2016-2018).
17. **Principal Investigator**, “An Indigeneous Framework for Authenticity, Integrity, and Non-Repudiation in Data Communication”, DRDO, Govt. of India, Grant Amount: Rs. 60.414 Lakhs, for 3 years (2015-2018).
18. **Principal Investigator**, “Cloud-Assisted WBAN Based Ubiquitous Healthcare Management System & its Application in Telemedicine”, MHRD, Govt. of India, Grant Amount: Rs. 39 Lakhs, for 3 years. [With Dr. S. Sarkar, Calcutta Medical College (CMC), Kolkata, and Dr. I. Banerjee, B. C. Roy Technology Hospital, IIT Kharagpur].
19. **Co-Investigator**, “Virtual Labs – Phase II”, MHRD, Govt of India, Grant Amount: Rs. 539.37 Lakhs, for 3 years (September 2014-September 2017).
20. **Co-Investigator**, “Measurement to Management (M2M): Improved Water Use Efficiency and Agricultural Productivity Through Experimental Sensor Network”, ITRA, Media Lab Asia, Grant Amount: Rs. 320.95 Lakhs (IIT Kharagpur component: INR 155.64 Lakhs), for 3 years (2013-2016). [With N. S. Raghuvanshi, V. Mishra, R. Singh, C. Chatterjee and A. Mishra, Agriculture & Food Engineering, IIT Kharagpur; V. Mishra, IIT Gandhinagar; M. P. Tripathy, Indira Gandhi Agricultural University, Raipur]
21. **Principal Investigator**, “Development of Feasibility Assessment Model for Adaptation of Underground Coal Gasification Technology in the North-East Region of India”, Department of Information Technology (DIT), Government of India, Grant Amount: INR 2,17,93,000 (IIT Kharagpur Component: INR 32,14,000), for 2.5 years (2012-2014).
22. **Principal Investigator**, “Target Tracking in Distributed Wireless Sensor Networks in the Presence of Misbehaving Nodes”, ISIRD, IIT Kharagpur, Grant Amount: INR 5,00,000, for 3 years (2011-2014).

23. **Principal Investigator**, “Towards Robust, Efficient and Secure Data Acquisition in Underwater Sensor Networks”, Department of Information Technology (DIT), Government of India, Grant Amount: INR 54,22,000, for 3 years (2010-2013).
24. **Principal Investigator**, “Virtual Labs: Advanced Network Technology”, Ministry of Human Resources Development (MHRD), Government of India, Grant Amount: INR 35,52,000, for 2 years (2010-2012).
25. **Co-Principal Investigator**, “Virtual Labs: Software Engineering”, Ministry of Human Resources Development (MHRD), Government of India, Grant Amount: INR 35,52,000, for 2 years (2010-2012). [With D. Samanta, SIT, IIT Kharagpur]
26. **Principal Investigator**, “Adaptive Learning-Based Fault-Tolerant Routing in Adversarial Wireless Ad Hoc and Sensor Networks”, Council of Scientific and Industrial Research (CSIR), India, Grant Amount: INR 15,92,000, for 3 years (2009-2012).
27. **Principal Investigator**, “Bio-inspired and Nature-inspired Solutions in Wireless Ad hoc and Sensor Networks”, Department of Science and Technology (DST), Government of India, SERC Fast Track Project for Young Scientists, Grant amount: INR 7,20,000, for 3 years (2009-2012).

### Consultancy Project

1. **Co-consultant**, “Checking Border Violation by Civilians Through Technological Solution”, Border Security Force (BSF), Govt. of India, Grant Amount: INR 3,06,743, for 12 weeks (2014). [With Prof. S. Mukhopadhyay, E&ECE, IIT Kharagpur].
2. **Consultant**, “Course Curriculum Development of Bachelors of Technology in Computer Science and Engineering with specialization in Industrial Internet of Things and Programming”, 2023.
3. **Consultant**, “Course Curriculum Development of Bachelors of Technology in Computer Science and Engineering”, 2022.
4. **Consultant**, “Course Curriculum Development of Bachelors of Technology in Information System”, 2022.
5. **Consultant**, “Course Curriculum Development of MBA in International Business Digital Infrastructure Management”, 2023.
6. **Consultant**, “Course Curriculum Development of Post Graduation Diploma in Cyber Security”, 2023.
7. **Consultant**, “Course Curriculum Development of Post Graduation Diploma in Cloud Computing”, 2023.
8. **Consultant**, “Course Curriculum Development of Post Graduation Diploma in Data Science”, 2023.
9. **Consultant**, “Course Curriculum Development of Post Graduation Diploma in Java”, 2023.

### RESEARCH LABORATORY DEVELOPMENT

- **Professor-in-Charge**, “IoT Laboratory”, Samsung Digital Academy, IIT Kharagpur, 2018.
- **Principal Developer**, “Smart Wireless Applications and Networking (SWAN) Laboratory”, School of Information Technology, IIT Kharagpur, 2014-2015.
- **Co-Developer**, “Safety Analytics Laboratory”, Department of Industrial and Systems Engineering, IIT Kharagpur (Laboratory in-charge: Professor J. Maiti), 2015.

## STUDENT SUPERVISION

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### Ph.D. Thesis

#### Completed/Thesis Submitted

1. Anudipa Mondal, “IoT Networks”, IIT Kharagpur, 2018-Present [Co-Supervisor: Prof. G. Das (GSSST)]
2. Saswati Pal, “Modeling In Vivo Molecular Communication Channel for Biological Nano-particles”, IIT Kharagpur, 2017-2023.
3. Pradyumna Kumar Bishoyi, “Performance Analysis and Optimization of Wireless Body Area Networks in IoT-Based Healthcare Systems”, IIT Kharagpur, 2017-2022
4. Minu Tiwari, “IoT Networks”, IIT Kharagpur, 2017-2022.
5. Prajnamaya Das, “IoT Security”, IIT Kharagpur, 2016-2023.
6. Rituparna Saha, “IoT Networks”, IIT Kharagpur, 2017-2022.
7. Dinesh R, “IoT Networks”, IIT Kharagpur, 2018-2023.
8. Firoz Gazi, “IoT Networks”, IIT Kharagpur, 2018-2022. [Co-Supervisor: Prof. M. K. Tiwari (SWR)]
9. Aishwariya Chakraborty, “Sensors-as-a-Service in IoT”, IIT Kharagpur, 2018-2023. [Co-Supervisor: Prof. J. Maity (IEM)]
10. Chandrani Ray Chowdhury, “IoT Networks”, IIT Kharagpur, 2018-2023.
11. Pallav Kumar Deb, “Resource Orchestration in Constrained IoT Devices”, IIT Kharagpur, 2017-2022.
12. Pradyumna Kumar Bishoyi, “Performance Analysis and Optimization of Wireless Body Area Networks in IoT-Based Healthcare Systems”, IIT Kharagpur, 2015-2022.
13. Sumana Maiti, “Towards Lightweight and Anonymous Identity-Based Broadcast Proxy Re-encryption”, IIT Kharagpur, 2016-2021.
14. Satendra Kumar, “Resource Management in Heterogeneous Wireless Networks: An Economics Perspective”, IIT Kharagpur, 2015-2021.
15. Anandarup Mukherjee, “Offloading in UAV Networks”, Ph.D. Thesis, IIT Kharagpur, 2014-2021 [Co-Supervisor: Prof. N. S. Raghuvanshi (AgFE)].

16. Ilora Maiti, "Towards Scalable SDN: Enhancement in Data and Control Planes", IIT Kharagpur, 2015-2020 [Co-Supervisor: Prof. C. R. Mandal (CSE)]
17. Abhishek Bera, "Multi-UAV Communication Networks: Quality of Experience, Quality of Service, and Coverage", IIT Kharagpur, 2016-2020. [Co-supervisor: Prof. C. Chatterjee (AgFE)]
18. Samaresh Bera, "Software-Defined Networking for Internet of Things: Rule Placement and Routing", IIT Kharagpur, 2015-2020.
19. Ayan Mondal, "Traffic Engineering in Software-Defined Data Center Networks for IoT", IIT Kharagpur, 2015-2020.
20. Chandana Roy, "Safety-as-a-Service for IoT applications in Road Transportation", IIT Kharagpur, 2017-2020. [Co-Supervisor: Prof. J. Maity (ISE)]
21. Arijit Roy, "Service-Oriented Sensor-Cloud Management for IoT Applications", IIT Kharagpur, 2015-2020.
22. Tamoghna Ojha, "Provisioning Sensors-as-a-Service in Sensor-Cloud-based Internet of Things", Ph.D. Thesis, IIT Kharagpur, 2014-2020 [Co-Supervisor: Prof. N. S. Raghuwanshi (AgFE)].
23. Barun Saha, "Content Dissemination in Opportunistic Mobile Networks", Ph.D. Thesis, IIT Kharagpur, 2014-2018.
24. Prasenjit Bhavathankar, "Jamming-Aware Quality-of-Service Enhancement in Wireless Sensor Networks", Ph.D. Thesis, IIT Kharagpur, 2009-2017.
25. Soumen Moulik, "Health Severity-based QoS Provisioning in Wireless Body Area Networks", Ph.D. Thesis, IIT Kharagpur, 2013-2017 [Co-Supervisor: Dr. Chandan Chakraborty (SMST)]
26. Subhadeep Sarkar, "Analysis of Delay in Wireless Communication for Healthcare Systems", Ph.D. Thesis, IIT Kharagpur, 2013-2017 [Co-Supervisor: Dr. Chandan Chakraborty (SMST)].
27. Subarna Chatterjee, "Sensors-as-a-Service: Towards the Conceptualization of Sensor-Cloud", Ph.D. Thesis, IIT Kharagpur, 2013-2017.
28. Nabiul Islam, "Characterizing Collision and Optimizing Energy Consumption in Nanoscale Communication Networks", Ph.D. Thesis, IIT Kharagpur, 2011-2016.
29. Goutam Mali, "Cooperation-Aided Distributed Topology Management and Resource Allocation in Wireless Multimedia Sensor Networks", Ph.D. Thesis, IIT Kharagpur, 2010-2016.
30. Sumit Goswami, "Behavioral and Security Analysis of Next-Generation Networks", Ph.D. Thesis, IIT Kharagpur, 2012-2016.
31. Bhaskar Das, "Cooperative Transmission in Vehicular Ad-Hoc Network", Ph.D. Thesis, Visva-Bharati University, 2011-2015 [Co-supervisor: Dr. U. Roy (Visva-Bharati)].
32. Pushpendu Kar, "Temporary Node-Misbehavior in the Presence of Environmental Effects in Wireless Sensor Networks", Ph.D. Thesis, IIT Kharagpur, 2012-2016.
33. Sankar Narayan Das, "Correlation-Aware Network Management of Wireless Sensor Networks", Ph.D. Thesis, IIT Kharagpur, 2009-2016.
34. Sujata Pal, "Cooperation in Opportunistic Mobile Networks", Ph.D. Thesis, IIT Kharagpur, 2011-2016.

35. Manas Khatua, “Analysis of Contention-Based Wireless networks”, Ph.D. Thesis, IIT Kharagpur, 2011-2016.
36. Judhistir Mahapatro, “Interference Mitigation and QoS Provisioning in Wireless Body Area Network Equipped Patients”, Ph.D. Thesis, IIT Kharagpur, 2010-2015. [Co-Supervisor: Dr. M. Manjunatha (SMST)].
37. Amit Mandal, “Simulation of the Effects of Bubble Plumes, Internal Solitons, and Mobility of Nodes on the Performance of Underwater Wireless Acoustic Sensor Networks”, Ph.D. Thesis, IIT Kharagpur, 2010-2014 [Co-Supervisor: Dr. Mihir K. Dash (CORAL)].
38. Bibudhendu Pati, “Learning Outcomes Using Virtual Software Engineering Laboratory”, Ph.D. Thesis, IIT Kharagpur, 2011-2014 [Co-Supervisor: Dr. Atasi Mohanty (CET)].
39. Ranjit Singh, “Jamming in Wireless Sensor Networks: Detection, Mapping, Localization and Tracking”, Ph.D. Thesis, IIT Kharagpur, 2008-2011.

### **In Progress**

1. Ishani Roy, “Learning Analytics”, IIT Kharagpur, 2023-Present. [Supervisor: Prof. A. Mohanty (RCoESH)]
2. Kumarjit Ray, “IoT Networks”, IIT Kharagpur, 2022-Present.
3. Anshita gupta, “IoT Networks”, IIT Kharagpur, 2021-Present.
4. Riya Tapwal, “IoT Networks”, IIT Kharagpur, 2020-Present.
5. Atonu Ghosh, “IoT Networks”, IIT Kharagpur, 2020-Present.
6. Nidhi Pathak, “IoT Networks”, IIT Kharagpur, 2020-Present. [Co-Supervisor: Prof. A. Mohanty (RCoESH)]
7. Ruelia Saha, “IoT Networks”, IIT Kharagpur, 2020-Present.
8. Kounteya Sarkar, “IoT Networks”, IIT Kharagpur, 2020-Present.
9. Sarmistha Nayak, “IoT Networks”, IIT Kharagpur, 2017-Present [Co-Supervisor: Prof. S. B. Majumdar (SNST)]
10. N. Anandshree Singh, “Multimedia IoT Networks”, IIT Kharagpur, 2017-Present.

### **M. S. (By Research) Thesis**

#### **Completed**

1. Ravi Dhiman, “Controller Placement in SDN: Energy- and Mobility-Aware Perspectives”, M. S. Thesis, IIT Kharagpur, 2017-2021
2. Nidhi Pathak, “Interoperability in IoT-enabled Healthcare”, M. S. Thesis, IIT Kharagpur, 2017-2020

3. Sanku Kumar Roy, "Interoperability in Internet of Things", M. S. Thesis, IIT Kharagpur, 2015-2019 [Co-Supervisor: Prof. N. S. Raghuwanshi (AgFE)]
4. Niloy Saha, "QoS-Aware Software-Defined Networks for IoT Applications", M. S. Thesis, IIT Kharagpur, 2016-2018.
5. Aishwariya Chakraborty, "QoS-Aware Sensors-As-A-Service in Sensor-Cloud", M. S. Thesis, IIT Kharagpur, 2016-2018.
6. Amit Samanta, "Distributed Resource and QoS Management in Wireless Body Area Networks", M.S. Thesis, IIT Kharagpur, 2014-2017.
7. Tuhin Chakraborty, "User Interface Mechanisms for People with Visual Impairment to Access Mobile Phones", M.S. Thesis, IIT Kharagpur, 2011-2016 [Co-Supervisor: Dr. D. Samanta].
8. Arijit Roy, "Dumb Nodes in Sensor Networks", M.S. Thesis, IIT Kharagpur, 2012-2015. [Co-Supervisor: Dr. D. Samanta].
9. Snigdha Das, "Resource Management in Mobile Cloud Environments", M.S. Thesis, IIT Kharagpur, 2013-2015.
10. Ayan Mondal, "Distributed Energy Management in Smart Grid", M.S. Thesis, IIT Kharagpur, 2013-2015.
11. Samaresh Bera, "Distributed Pricing Policy and Energy Management in Smart Grid", M.S. Thesis, IIT Kharagpur, 2013-2015.
12. Tamoghna Ojha, "Architecture and Localization for Underwater Sensor Networks", M.S. (By Research) Thesis, IIT Kharagpur, 2011-2014.
13. Barun Saha, "Human Aspects and Heterogeneity in Mission-Oriented Opportunistic Networks", M.S. (By Research) Thesis, IIT Kharagpur, 2011-2014 [Co-Supervisor: Dr. D. Samanta].
14. Farhana Zabin, "REEP: A Data-Centric, Reliable and Energy-Efficient Routing Protocol for Wireless Sensor Networks", M. Sc. Thesis, Ryerson University, 2005-2007 [Co-Supervisors: Dr. I. Woungang and Dr. B. Ma].

## **M.Tech. Thesis/Project**

### **Completed**

1. Abinash Mohapatra, "Automating Audio Surveillance Using Machine Learning", M.Tech Thesis, 2017-2019
2. Bapi Reddy Karri, "Spectral Image translation using Generative Adversarial Networks", M.Tech Thesis (Dual Degree), IIT Kharagpur, 2017-2018
3. Vadde Santosha Pradeep Chandra, "Automating Vertical Takeoff UAVs and Utility-based Optimized Task Allocation in IoT-based UAV Swarms", M.Tech Thesis (Dual Degree), IIT Kharagpur, 2017-2018
4. Stainlee Bakhla, "Flow Classification in Software-Defined Networks using FlowsSeer", 2016-2018.

5. Saurabh Singh, "Dense Crowd Motion Analysis & Prediction using Deep Neural Networks for Drones", M.Tech Thesis, IIT Kharagpur, 2016-2018
6. Dharendra Singh, "Activity Recognition with Smartphone Sensor", M.Tech Thesis, IIT Kharagpur, 2015-2017
7. Priyatosh Mangrulkar, "An IoT Based Battlefield Distress Monitoring and Evaluation System", M. Tech Thesis, IIT Kharagpur, 2014-2016.
8. Achuthananda M. P., "Situation Aware Protocol Switching to Optimize QoS in Software Defined Wireless Sensor Networks", M. Tech Thesis, IIT Kharagpur, 2014-2016.
9. Rahul Roshan, "Intrusion Detection System for Wireless Sensor Networks", M. Tech Thesis, IIT Kharagpur, 2014-2016.
10. Girish D. Pawar, "Cloud-Based Information Management in Smart Grid", M. Tech Thesis, IIT Kharagpur, 2013-2015.
11. Anuj Singh, "QoS-Aware Sensor Management for Target Tracking in Sensor-Cloud", M. Tech Thesis, IIT Kharagpur, 2012-2014.
12. Praveen Gupta, "Optimal Portfolio Selection for Dynamic Demand Scheduling in Smart Grid", M. Tech Thesis, IIT Kharagpur, 2012-2014.
13. Lakshmi S. Patel, "Co-operative Game and Stochastic Scheduling Approach for Pricing and Coalition in Smart Grid", M. Tech Thesis, IIT Kharagpur, 2012-2014.
14. Ruchika Padhi, "Link Quality Estimation for Underwater Acoustic Sensor Network", M. Tech. (ICT) Thesis, IIT Kharagpur, 2011-2014.
15. Satyadeep Mishra, "Social Sensing-based Duty Cycle Management for Wireless Sensor Networks", M. Tech. (ICT) Thesis, IIT Kharagpur, 2011-2013.
16. Sukhchain Singh, "A Learning Automata based Method for Estimation of Mobility Model of a Target in Wireless Sensor Networks", M. Tech. Thesis, IIT Kharagpur, 2011-2013.
17. Reena Tirkey, "Optimal Gateway Selection in Sensor-Cloud Framework", M. Tech. Thesis, IIT Kharagpur, 2011-2013.
18. Saketi Ajay Babu, "A Quality-of-Security-Based Distance Vector Routing Protocol for 6LoWPAN using Weak Estimation Learning Automata", M. Tech. Thesis, IIT Kharagpur, 2011-2013.
19. Shukla Banik, "Residential Energy Management in Smart Grid", M. Tech. Thesis, IIT Kharagpur, 2011-2013.
20. Romil Barthwal, "Community Detection in Integrated Internet of Things and Social Networks", M. Tech. Thesis, IIT Kharagpur, 2010-2012.
21. Chejerla Rajesh, "Transport Protocol for Underwater Sensor Networks", M. Tech. Thesis, IIT Kharagpur, 2010-2012.
22. Tanmay Saha, "Mobility Model for Underwater Sensor Networks", M. Tech. Thesis, IIT Kharagpur, 2010-2012.
23. Ashim Alok Ghosh, "The Effects of Variable Sound Speed on Localization in Underwater Sensor Networks", M. Tech. Thesis, IIT Kharagpur, 2009-2011.

24. A. P. Sagar P., “MAcoSim: A Matlab Based Underwater Acoustic Sensor Network Simulator”, M. Tech. Thesis, IIT Kharagpur, 2009-2011.
25. Suresh Bollabathula, “Fault-tolerant Routing in Underwater Sensor Networks”, M. Tech. Thesis, IIT Kharagpur, 2009-2011.
26. Ashish Chalak, “Cluster-Head Selection Algorithm for Wireless Sensor Networks”, M. Tech. Thesis, IIT Kharagpur, 2008-2010.
27. Pankaj Chandra, “TBCH: Tier-Based Energy-Efficient Cluster Head Selection Method for Wireless Sensor Networks”, M. Tech. Thesis, IIT Kharagpur, 2008-2010.
28. Patel Manishkumar Manilal, “Key Management in Heterogeneous Wireless Sensor Networks”, M. Tech. Thesis, IIT Kharagpur, 2008-2010.
29. B. Balaji, “Optimization of 1-Address Code”, M. Tech. Thesis (CSDP), IIT Kharagpur, 2008-2010. [Co-Supervisor: Dr. P. Kumar, Mathematics]
30. Rahul Joshi, “Cognitive Radio Wireless Networks”, M. Tech. Thesis (CSDP), IIT Kharagpur, 2008-2010 [Co-Supervisor: Dr. P. V. S. N. Murthy, Mathematics].
31. Sudip Das, “Cognitive Radio Wireless Networks”, M. Tech. Thesis (CSDP), IIT Kharagpur, 2008-2010. (CSIR Junior Research Fellow) [Co-Supervisor: Dr. P. Panigrahi, Mathematics].
32. Manojit Kundu, “Bipartite Overlay Construction for Gnutella Networks”, M. Tech. Thesis, IIT Kharagpur, 2007-2009.
33. Dias Thomasianous, “A Simple Least Time, Energy-Efficient Routing Protocol, With One-Level Data Aggregation in Wireless Sensor Networks”, M. Tech. Thesis, IIT Kharagpur, 2007-2009.

#### **INAE Visiting Students/Faculty**

1. Varan Singh Rohila, NIT Hamirpur
2. Aatish Rana, “IoT Device and Network Virtualization, Resource Allocation, Scaling for IoT Service Provisioning”, NIT Rourkela, September 1, 2021 to November 10, 2021.
3. Dr. Suvadip Batabyal, BITS Pilani, Hyderabad

#### **Other Students (Visiting Students and Summer/Co-Op Students)**

1. Naimisha Koppala, “S-Nav: Safety-Aware IoT Navigation Tool for Avoiding COVID-19 Hotspots”, Intern from Indian Institute of Technology Delhi, duration: 45 days (15th May 2020- 30th June 2020)
2. Anwesa Bhattacharya, “P-Ford: Bridging B5G/6G Communication Voids in UAV Swarms with Phantom Networks”, Intern from Jadavpur University, duration: 84 days (15th May 2020-9th August 2020)
3. Digvijay Singh, “Loop-the-Loops: Fragmented Learning Over Networks for Constrained IoT Devices”, Intern from BITS Pilani Hyderabad Campus, duration: 83 days (15th May 2020 - 8th August 2020)

4. Tamoghna Sarkar, “Magnum: A Distributed Framework for Enabling Transfer Learning in B5G-Enabled Industrial-IoT”, Intern from SRM Institute of Science and Technology, duration: 75 days (15th May 2020 - 31st July 2020)
5. Indumathi Bevara, “Social distance monitor”, Intern from Miracle Educational Society Group of Institutions, JNTU Kakinada, duration: 70 days (15th May 2020 - 24 July 2020)
6. Hemaltha Bevara, “Social distance monitor”, Intern from Miracle Educational Society Group of Institutions, JNTU Kakinada, duration: 70 days (15th May 2020 - 24 July 2020)
7. Ananya Sharma, “Prescription digitization”, Intern from Manipal Institute of Technology, duration: 85 days (15th May 2020 - 10th Aug 2020)
8. Sukriti Shaw, “Audio-based social distancing”, Intern from SRM Institute of Science and Technology, duration: 75 days (15th May 2020 - 31st July 2020)
9. Akkinapalli Gayathri, “Social distance monitor”, Intern from Indian Institute of Information Technology, Design and Manufacturing KURNOOL, duration: 60 days (1st Aug 2020 - 30th Sep 2020)
10. Bhabesh Sukkhla, “Federated Learning Implementation in Raspberry Pi”, intern from Indian Institute of Information Technology, Kalyani, Duration 30 days (Dec 5, 2019 to Jan 2, 2020).
11. Parth Goel, “Design and Development of a Prototype for Guiding Route for Blind People”, Intern from Manipal University Jaipur, India, Duration: 30 days, 15th December 2019 to 14th January 2020.
12. Nishant Routary, “Design of Low Cost Underwater Acoustic Modem”, Intern from Veer Surendra Sai University of Technology(VSSUT) , Burla, Odisha, duration: 60days (15th May – 14th July 2019)
13. Subham Sahoo, “Design of Low Cost Underwater Acoustic Modem”, Intern from National Institute of Technology, Rourkela, Odisha, duration: 30 days (2nd December 2018 to 1st January 2019)
14. Ankit Barai, “Implementation of Evolutionary Game Theory Algorithm on Fog System” Intern from Indian Institute of Information Technology Nagpur, India, Duration: 30 days 5th December 2018 to 5th January 2019.
15. Dhanush Narayan Kamath, “Design scheme for blockchain-based federated sensor-cloud”, Intern from Sardar Vallabhbhai National Institute of Technology, Surat, India, duration: 60 days (11th May to 10th July 2018)
16. Vishnu Kant, “Blockchain Application in Healthcare”, Intern from IIT(ISM) Dhanbad, India, duration: 60 days (14 May to 13 July 2018)
17. Ishan Choudhury, “Blockchain for IoT”, Intern from NIT Agartala, India, duration: 55 days (11 May to 5 July 2018)
18. Yash Raj, “Development of Digital Mines using Internet of Things”, an intern from National Institute of Technology, Patna, India, duration: 60 days (12th May to 12th July 2018)
19. Mainak Banerjee, “Development of Digital Mines using Internet of Things”, an intern from Neotia Institute of Technology, Management, and Science, Kolkata, India, duration: 60 days (28th May to 28th July 2018).

20. Ujjayini Chakraborty, "Safe-Serv: Energy-Efficient Decision Delivery for Provisioning Safety-as-a-Service", Intern from National Institute of Technology Silchar, duration: 60 days (11th May, 2018 to 10th July, 2018).
21. Soumi Nag, "EdgeSafe: Dynamic Load Balancing Among Edge Devices for Provisioning Safety-as-a-Service in Vehicular IoT Applications", Intern from National Institute of Technology Durgapur, duration: 60 days (11th May, 2018 to 10th July, 2018 ).
22. Rahul Bhope, "Digital Stethoscope", Intern from National Institute of Technology, Trichy, India, duration: 30 days (16th December 2017 to 15th January 2018)
23. Kalyani Yalamanchili, "Implementation of sensor cloud Architecture", Intern from National Institute of Technology, Patna, India, duration: 30 days (1st December 2017 to 1st January 2018)
24. Rachuri Sri Pramodh, "Multi-Armed Bandit-based Decentralized Computation Offloading in Fog-Enabled IoT", Intern from Indian Institute of Technology Bhilai, duration: 60 days (15th May 2018 - 15th July 2018)
25. Anupama Bauri, "Decision tree-based Ensemble Learning in Raspberry Pi", intern from NIT Durgapur, Duration 60 days (May 12, 2018 to July 10, 2018)
26. Shopan Dey, "Design of Low Cost Underwater Acoustic Modem", Intern from University of Engineering and Management, Jaipur, India, duration: 30 days – (4th June 3rd July 2018)
27. Akash Chouhan, "Neural Network-based Ensemble Learning in Raspberry Pi", intern from Central University of Rajasthan Duration 60 days (May 13, 2018 to July 12, 2018)
28. Sumit Kumr Pandit, "Web Page Design for IAU project", intern from NIT Arunachal pradesh, Duration 60 days (May 25, 2018 to July 25, 2018)
29. Ritam Dutta, "P-VERSE: Prioritization of Vehicles to Enhance Road Safety in IoV Environment", Intern from National Institute of Technology Durgapur, duration: 50 days (16th May 2017 to 4th July 2017).
30. Pankaj Kumar, "Design scheme for data multicasting in data center networks", Intern from National Institute of Technology, Patna, India, duration: 60 days (8th May to 7th July 2017)
31. Hemanth Reddy, "Exploration of general neural networks", Intern from IIT Kharagpur, duration: 60 days (15th May 2017 to 16th July 2017)
32. Prerna Raghuwanshi, "UAV package drop dynamics", Intern from IEST Shibpur, India, duration: 30 days (9th May 2017 to 9th June 2017 )
33. Anumandala Sukrutha, "Game-theory based offloading in UAV networks", Intern from IIT Hyderabad, duration: 60 days (15th May 2017 to 16th July 2017)
34. Debarpan Bhattacharya, "Aerial demarcation of agricultural plots from live UAV images", Intern from Jadavpur University, India, duration: 60 days (18th May 2017 to 18th July 2017)
35. Sunayan Dalal, "Upgradation of underwater modem", Intern from IIT Kharagpur, duration: 60 days (15th May 2017 to 16th July 2017)
36. Dibyajyoti Pal, "Upgradation of underwater modem", Intern from NIT Durgapur, duration: 60 days (15th May 2017 to 16th July 2017)

37. Aniq Ur Rehman, “Opportunistic target tracking through UAVs”, Intern from NIT Durgapur, duration: 60 days (15th May 2017 to 16th July 2017)
38. Vadde Santosha Pradeep Chandra, “UAV swarm setup”, Intern from IIT Kharagpur, duration: 30 days (5th Jan 2017 to 5th Feb 2017)
39. Aneek Mandal, “Underwater modem”, Intern from NIT Durgapur, India, duration: 60 days (15th May 2016 to 18th July 2016)
40. Sourav Pal, “Underwater modem modulation”, Intern from NIT Durgapur, India, duration: 60 days (15th May 2016 to 18th July 2016)
41. Divya Lakshmi J K, “Acoustic and wireless communication switching”, Intern from SSN College of Engineering, Kalavakkam, India, duration: 60 days (2nd June 2016 to 2nd August 2016)
42. Sai Nandan, “MicroUAV flight data logging”, Intern from Rajiv Gandhi University of Knowledge Technologies, Nuzvid, Andhra Pradesh, India, duration: 60 days (2nd June 2016 to 2nd August 2016)
43. Piyush Jha, “MicroUAV automated control and feedback loop”, Intern from MNIT Jaipur, duration: 60 days (21st May 2016 to 21st July 2016)
44. Edwin Mascheranas, “MicroUAV Deep Learning flight control patterns”, Intern from, BITS Pilani Goa Campus, duration: 60 days (10th May 2016 to 10th July 2016)
45. Geeta Bala, “General CNN exploration fro image classification”, Intern from NIT Durgapur, duration: 60 days (15th May 2016 to 18th July 2016)
46. Raja Sriswan Mamidi, “Smartphone-based Food Nutrition Identification”, Intern from National Institute of Nutrition Hyderabad, India, duration: 60 days (6th May 2016 to 6th July 2016)
47. Swetha Khajjayam, “Design scheme for data broadcasting in data center networks”, Intern from National Institute of Technology, Durgapur, India, duration: 60 days (20th May to 19th July 2016)
48. Ananya Konar, “Testing of a WBAN-based cloud-assisted ambulatory healthcare system”, Intern from NIT Durgapur, India, duration: May - July, '16
49. Rajesh Kudupudi, “Testing of a WBAN-based cloud-assisted ambulatory healthcare system”, Intern from NIT Durgapur, India, duration: May - July, '16
50. Parakh Khandelwal, “Dead-reckoning based rover navigation”, Intern from University of Engineering & Management, Jaipur, India, duration: 30 days (15th Dec 2015 to 15th Jan 2016)
51. Disha Singhanian, “Activity recognition”, Intern from University of Engineering & Management, Jaipur, India, duration: 30 days (15th Dec 2015 to 15th Jan 2016)
52. Shopan Dey, “Underwater modem”, Intern from University of Engineering & Management, Jaipur, India, duration: 30 days (15th Dec 2015 to 15th Jan 2016)
53. Afaq Ahmed, “Ultrasonic communication in air”, Intern from University of Engineering & Management, Jaipur, India, duration: 30 days (15th Dec 2015 to 15th Jan 2016)
54. Nilanjan Daw, “Micro-UAV gesture control”, Intern from Institute of Engineering and Management, Kolkata, India, duration: 30 days (15th Dec 2015 to 15th Jan 2016)

55. Debapriya Paul, “ Micro-UAV gesture control ”, Intern from Institute of Engineering and Management, Kolkata, India, duration: 30 days (15th Dec 2015 to 15th Jan 2016)
56. Ayushi Bajpai, “Machine learning models for activity recognition”, Intern from NIT Allahabad, India, duration: 60 days (13th May to 15th July 2015)
57. Alok Dixit, “Smart Home hardware”, Intern from IIT Kharagpur, India, duration: 60 days (13th May to 15th July 2015)
58. Paritosh Goyal, “Smart Home presence monitoring and actuation node”, Intern from IIT Kharagpur, duration: 60 days (13th May to 15th July 2015)
59. Abhay Atrish, “Mindwave-based AAL system”, Intern from NIT Uttarakhand, duration: 60 days (13th May to 15th July 2015)
60. P. V. Sudheer Kumar, “Design distributed energy management scheme in smart grid”, Intern from National Institute of Technology, Durgapur, India, duration: 60 days (7th May to 7th July 2015)
61. Ezaj Ahmed Ansari, “Development of a WBAN-based cloud-assisted ambulatory healthcare system”, Intern from NIT Durgapur, India, duration: May - July,'15
62. Dipayan Ghatak, “Development of a WBAN-based cloud-assisted ambulatory healthcare system”, Intern from NIT Durgapur, India, duration: May - July,'15
63. Anirban Roy, “Design of Low Cost Underwater Acoustic Modem”, Intern from University of Engineering & Management, Jaipur, India, duration: 30 days (16th January to 15th February 2015)
64. Nidhi Pathak, “Integration of Smartphone Sensors”, Intern from University of Engineering & Management, Jaipur, India, duration: 30 days (16th January to 15th February 2015)
65. Khadija Chowdhary, “Analysis of delay and starvation in IEEE 802.15.6”, Summer Intern from NIT Durgapur, India, 8th May - 7th July, 2014
66. Ranjana Ladia, “Pricing in sensor-cloud”, Summer Intern from NIT Durgapur, India, 8th May - 7th July, 2014
67. Rachit Data, “Big data networking”, Summer Intern from NIT Durgapur, India, 8th May - 7th July, 2014
68. Manmeet Singh Bhogal, “Big-sensor-cloud infrastructure development”, Summer Intern from NIT Durgapur, India, 8th May - 7th July, 2014
69. Abhishek Gaurav, “Cloud pricing for WBANs”, Summer Intern from IIT BHU, India 8th May - 7th July, 2014
70. Durba Chatterjee, “Smart grid”, Summer Intern from NIT Durgapur, India, 8th May - 7th July, 2014
71. Abhishek Basu, “Smart grid”, Summer Intern from RCC Institute of Information Technology, West Bengal, India, May - July, 2014
72. Suman Kumar Ghosh, “Smart grid”, Summer Intern from RCC Institute of Information Technology, West Bengal, May - July, 2014

73. Soumyajit Pal, "Smart grid", Summer Intern from RCC Institute of Information Technology, West Bengal, May - July, 2014
74. Amogh K. Vedamurthy, "Development of healthcare data analytic system using WBANs", Intern from SBBR Mahajana First Grade College, Mysore, India, duration: Jan - Feb,'15
75. Manajit Chakraborty, "Bandwidth-Aware Jamming in Sensor Networks", Summer Intern from Indian School of Mines (ISM), Dhanbad, India, 2013.
76. S. L. S. R. Kishore, "Performance Evaluation of Underwater Sensor Networks", Summer Intern from Indian Institute of Technology (IIT), Bhubaneswar, India, 2013.
77. Madhurya Gandhi, "Performance Evaluation of Underwater Sensor Networks", Summer Intern from National Institute of Technology (NIT), Durgapur, India, 2013.
78. Nayan Ranjan Kapri, "Target Tracking in WiMAX Networks", Summer Intern from National Institute of Technology (NIT), Durgapur, India, 2011.
79. Nishant Kumar, "Delay-Tolerant Routing in Underwater Acoustic Networks", Summer Intern from National Institute of Technology (NIT), Jamshedpur, India, 2011.
80. Tushar Ghosh, "Traffic Engineering in WiMAX Mesh Networks", Summer Intern from National Institute of Technology (NIT), Durgapur, India, 2010.
81. Shankha S. Chatterjee, "Cognitive Radio for WiMAX Mesh Networks", Summer Intern from National Institute of Technology (NIT), Durgapur, India, 2010.
82. Bhaswar Banerjee, "Medium Access in WiMAX Mesh Networks", Summer Intern from National Institute of Technology (NIT), Durgapur, India, 2010.
83. Jayita Bhattacharya, "Fault Tolerant Routing in Wireless Networks", Summer Intern from National Institute of Technology (NIT), Durgapur, India, 2010.
84. Abhishek Jain, "Delay Tolerant Routing in Underwater Sensor Networks", Summer Intern from Birla Institute of Technology and Science (BITS), Pilani, India, 2010.
85. Suraj Dash, "Jamming in Underwater Sensor Networks", Summer Intern from National Institute of Technology (NIT), Rourkela, India, 2010.
86. M. Gayathri, "Development of Virtual Labs", Summer Intern from Madanapalle Institute of Science and Technology, Andhra Pradesh, India, 2010.
87. Ankur Jain, "Topology Management in Wireless Sensor Networks", Visiting Student from National Institute of Technology (NIT) Durgapur, Summer Project, IIT Kharagpur, 2009.
88. Sweta Singh, "Target Tracking in Wireless Sensor Networks", Visiting Student from National Institute of Technology (NIT) Durgapur, Summer Project, IIT Kharagpur, 2009.
89. Pavan Kumar, "Coverage in Wireless Sensor Networks", Visiting Student from National Institute of Technology (NIT) Durgapur, Summer Project, IIT Kharagpur, 2009.
90. Prateek Agrawal, "Bio-Inspired Mobility Model for Mobile Ad Hoc Networks", Visiting Student from Birla Institute of Technology and Science (BITS) Pilani, Summer Project, IIT Kharagpur, 2009.

91. G. Rajesh, “Bio-Inspired Solutions for Routing in Mobile Ad Hoc Networks”, Visiting Student from Indian Institute of Information Technology (IIIT) Allahabad, Summer Project, IIT Kharagpur, 2009.
92. Ankur Vaish, “Access Control in Wireless Sensor Networks”, Visiting Student from Indian Institute of Information Technology (IIIT) Allahabad, Summer Project, IIT Kharagpur, 2009.
93. Chandni Agrawal, “Planning for Development of a Wireless Sensor Network Testbed”, Visiting Student from National Institute of Technology (NIT) Raipur, Summer Project, IIT Kharagpur, 2009.
94. Sanchita Roy, “Secured Routing in Wireless Sensor Networks”, Visiting Student from National Institute of Technology (NIT) Durgapur, Summer Project, IIT Kharagpur, 2008.
95. Debashish Mohanta, “Medium Access Control With Coordinated Adaptive Sleeping in Wireless Sensor Networks”, Visiting Student from Indian School of Mines University Dhanbad (ISMU), Summer Project, IIT Kharagpur, 2008.
96. Y. Sreekeerthy, “Learning Automata-Based Transport Protocol for Data Networks”, Visiting Student from Kalinga Institute of Industrial Technology (KIIT) Bhubaneswar, Summer Project, IIT Kharagpur, 2008.
97. Vivek Tiwari, “Congestion Control in Wireless Sensor Networks”, Visiting Student from National Institute of Technology (NIT) Durgapur, Summer Project, IIT Kharagpur, 2008.

## CONFERENCE TUTORIALS

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- M. S. Obaidat, **S. Misra**, A. Roy, “Sensors-as-a-Service for Internet of Things”, IEEE GLOBECOM, 2021, Madrid, Spain.
- **S. Misra**, N. Ahmed, A. Roy, “Programmability for Context-Aware Smart IoT Applications”, IEEE WCNC 2021, March-April 2021, Nanjing, China.
- **S. Misra** and I. Woungang, “Wireless Ad Hoc Networks”, 7th International Conference for Upcoming Engineers, Toronto, Ontario, Canada, May 28-29, 2007.
- I. Woungang and **S. Misra**, “Applications of Error-Control Coding Theory in Telecommunication and Cryptography”, 7th International Conference for Upcoming Engineers, Toronto, Ontario, Canada, May 28-29, 2007.

## CONFERENCE PROGRAM COMMITTEES

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### 2014

- Program Committee Member, IEEE CloudCom 2014, The 6th IEEE International Conference on Cloud Computing Technology and Science, “IoT on Cloud” Track, Singapore, Dec 15-18, 2014.
- Program Committee Member, IEEE ICC 2014, 3rd Workshop on Multimedia Communications & Services, Sydney, Australia, June 10-14, 2014.
- Technical Program Committee Member, 15th International Conference on Distributed Computing and Networking (ICDCN 2014), Amrita University, Coimbatore, India, January 4-7, 2014.

## 2013

- Program Committee Member, IEEE CloudCom 2013, The 5th IEEE International Conference on Cloud Computing Technology and Science, “IoT on Cloud” Track, Bristol, UK, Dec 2-5, 2013.
- Technical Program Committee Member, 7th Workshop des GI / ITG Messung, Modellierung und Bewertung von Rechensystemen (MMBnet 2013), Universität Hamburg, September 5-6, 2013.
- International Program Committee Member, 4th International Conference on Data Communication Networking, Reykjavik, Iceland, July 29-31, 2013.
- Technical Program Committee Member, 14th International Conference on Distributed Computing and Networking (ICDCN 2013), Tata Institute of Fundamental Research, Mumbai, India, January 3-6, 2013.

## 2012

- Technical Program Committee Member, IEEE ICC 2012 – CSSMA (Communication Software Services and Multimedia Applications Symposium), Ottawa, Canada, June 10-15, 2012.
- International Advisory Committee Member, 7th International Symposium on Wireless and Pervasive Computing (ISWPC 2012), Dalian, China, 2012.
- Technical Program Committee Member, International Conference on Computing, Networking and Communications, Communication Software and Services Symposium (ICNC '12 – CSS), Maui, Hawaii, USA, 30 Jan-2 Feb, 2012.

## 2011

- Program Committee Member, 3rd International Conference on Computer Science and its Applications (CSA-11), Mobile and Ubiquitous Computing Track, Jeju, Korea, December 12-15, 2011.
- Technical Program Committee Member, IEEE GLOBECOM 2011 – Communication Software, Services, and Multimedia Applications Symposium, Houston, Texas, USA, December 5-9, 2011.
- Technical Program Committee Member, 4th IEEE International Workshop on Internet and Distributed Computing Systems (IDCS 2011), in conjunction with the 11th IEEE International Conference on Algorithms and Architecture for Parallel Processing (ICA3PP 2011), Melbourne, Australia, October 24-26, 2011.
- Technical Program Committee Member, IEEE/ACM International Conference on Internet of Things (IoT), Dalian, China, October 19-22, 2011.
- Technical Program Committee Member, 6. Workshop des GI / ITG Messung, Modellierung und Bewertung von Rechensystemen (MMBnet 2011), Universität Hamburg, September 15-16, 2011.

## 2010

- Technical Program Committee Member, IEEE GLOBECOM 2010 Symposium on Communications Software, Services and Multimedia Applications (CSSMA 2010), Miami, Florida, Nov. 26 - Dec. 3, 2010.
- International Program Committee Member, International Conference on Computer Technology (ICCT 2010), Bhubaneswar, India, December 2010.
- Technical Program Committee Member, 2010 IEEE 72nd Vehicular Technology Conference (VTC 2010-Fall), Wireless Access Track, September 6-9, 2010, Ottawa, Canada.
- Technical Program Committee Member, International Conference on Advances on Computer, Communications Technology and Applications (ACCTA 2010), Bhubaneswar, India, August 3-5, 2010.
- Technical Program Committee Member, IEEE Wireless Communications and Networking Con-

ference (IEEE WCNC), Sydney, Australia, April 18-21, 2010.

## 2009

- Program Committee Member, 5th International Conference on Information System Security (ICISS 2009), Kolkata, West Bengal, India, December 15-20, 2009.
- Technical Program Committee Member, International Workshop on Scalable Ad Hoc and Sensor Networks (SASN 2009), collocated with The International Conference on Ultra-Modern Telecommunications, St. Petersburg, Russia, October 12-14, 2009.
- Technical Program Committee Member, GLOBECOM 2009, AHSN (Ad Hoc, Sensor and Mesh Networking Symposium), Honolulu, Hawaii, USA, November–December 2009.
- Technical Program Committee Member, IEEE 24th International Conference on Advanced Information Networking and Applications (AINA-2010), Perth, Australia, Pervasive/Ubiquitous Computing and Services Track, Perth, Australia, April 2010.
- Technical Program Committee Member, 11th IEEE International Conference on High Performance Computing and Communications (HPCC-09) – Pervasive/ubiquitous computing and intelligence track, Seoul, Korea, June 25-27, 2009.
- Program Committee Member, 5th International Conference on Testbeds and Research Infrastructures for the Development of Networks & Communities (TridentCom 2009), Washington D. C., USA, March/April, 2009.
- Technical Advisory Committee Member, National Conference on Computer Networks (NCCN 2009), Yelahanka, Bangalore, Karnataka, India, February 20-21, 2009.
- Technical Program Committee Member, 6th Annual IEEE Consumer Communications and Networking Conference (IEEE CCNC 2009) - Wireless Networking for Consumer Electronics Track, Las Vegas, Nevada, USA, January 2009.

## 2008

- Technical Program Committee Member, 1st International Workshop on Sensor Networks and Applications (SNA'08), Hainan Island, China, December 13-15, 2008.
- Program Committee Member, International Workshop on Internet and Distributed Computing Systems (IDCS'08). In conjunction with the 11th IEEE International Conference on Computer and Information Technology (ICCIT 2008), Khulna, Bangladesh, December 25-27, 2008.
- Program Committee Member, 10th International Conference on Enterprise Information Systems (ICEIS 2008), Barcelona, Spain, June 2008.
- Program Committee Member, International Workshop on Mobile Systems (WOMS 2008), Kolkata, India, July 11-12.
- Technical Program Committee Member, 2008 IEEE International Conference on Communications (ICC 2008) – Communications QoS, Reliability, and Performance Modeling Symposium, Beijing, China, May 2008.
- Scientific Committee Member, 9th International Conference on Artificial Intelligence and Soft Computing (ICAISC 2008), Zakopane, Poland, June 2008.
- Technical Program Committee Member, IEEE International Workshop on Data Management for Wireless and Pervasive Communications (DMWPC 2008), Ginowan, Okinawa, Japan, March 2008.
- Program Committee Member, 7th International Conference on Networking (ICN 2008), Cancun, Mexico, April 2008.
- Program Committee Member, IEEE International Conference on Information and Communication Technologies (ICTTA'08), Damascus, Syria, April 2008.
- Technical Program Committee Member, 5th Annual IEEE Consumer Communications and Networking Conference (IEEE CCNC ) – Network Access and Communications Track, Las Vegas,

Nevada, USA, January 2008.

## 2007

- Technical Program Committee Member, IEEE GLOBECOM 2007 – Ad Hoc and Sensor Networking Symposium, Washington DC, USA, 2007.
- Technical Program Committee Member, 3rd International Conference on Networking and Services (ICNS 2007), Athens, Greece, June 2007 (IEEE Computer Society sponsored).
- International Technical Program Committee Member, 6th International Conference on Networking (ICN 2007), Martinique, French Caribbean, 2007.
- Technical Program Committee Member, IEEE Wireless Communications and Networking Conference (IEEE WCNC) – Networking Program, Hong Kong, 2007.

## 2006

- Program Committee Member, 14th International Conference on Advanced Computing and Communications (ADCOM 2006), Mangalore, India, December 2006.
- Program Committee Member, 2nd IEEE International Conference on Information and Communication Technologies (ICTTA'06), Damascus, Syria, 2006.
- Scientific Committee Member, 8th International Conference on Artificial Intelligence and Soft Computing (ICAISC 2006), Zakopane, Poland, 2006 (IEEE sponsored).
- Steering Committee Member in the 8th International Conference on Advanced Communication Technology (ICTACT 2006), Phoenix Park, Korea, 2006 (IEEE sponsored).
- Technical Program Committee Member, International Conference on Networking and Services (ICNS 2006), Silicon Valley, USA, 2006 (IEEE Computer Society sponsored).
- Technical Program Committee Member, 8th International Conference on Advanced Communication Technology (ICTACT 2006), Phoenix Park, Korea, 2006 (IEEE sponsored).
- International Advisory Committee Member, 5th International Conference on Networking (ICN 2006), Mauritius, 2006 (IEEE/IEE sponsored).
- Program Committee Member, 8th International Conference on Enterprise Information Systems (ICEIS 2006), Paphos, Cyprus, 2006.

## TECHNICAL REFEREE (NOT UPDATED)

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### FACULTY SELECTION COMMITTEE

- Faculty Selection Committee Member, NIT Warangal, India, October 17, 2019

### REVIEW OF PAPERS IN JOURNALS, CONFERENCES & BOOK CHAPTERS

- Journal of Parallel and Distributed Computing (Elsevier) (2010)
- Journal of Network and Computer Applications (Elsevier) (2009).
- IEEE Systems Journal (2008).
- Security and Communication Networks Journal, Wiley (2008).
- IEEE Transactions on Systems, Man, and Cybernetics – Part B (2008).
- Computer Communications Journal (Special Issue – SPECTS), Elsevier (2008)
- IEEE INFOCOM (2008).
- IEEE CCNC (2008) – Network Access and Communications Track.
- IET Communications (formerly IEE Proceedings – Communications) (2007).
- IEEE Wireless Communications Magazine (2007).
- IEEE GLOBECOM ASNS (2007).

- IEEE International Conference on Communications (2006).
- Encyclopedia of Information Science and Technology (book), 2nd edn., Idea Group (2006).
- International Journal of Systems Science, Taylor & Francis (2005-2006)
- Neurocomputing Journal, Elsevier (2005).
- Journal of Supercomputing, Springer SBM. (2005)
- Web Services and E-Business Security (book), Idea Group (2005).

#### REVIEW OF GRANT PROPOSALS

- Reviewed grant proposals for NSERC, Canada.
- Reviewed many grant proposals for BIRAC, Govt. of India.
- Science and Engineering Research Council (SERC), Department of Science and Technology (DST), Govt. of India, <http://www.serc-dst.org/>. Area of the proposal: Mobile Ad Hoc Networks (Exact title: Confidential) (March 2010).
- Air Force Office of Scientific Research (AFOSR), USA. <http://www.afosr.af.mil/>. Area of the proposal: Security in Wireless Networks (Exact title: Confidential). (May 2007).

#### REVIEW OF BOOK PROPOSALS

- Springer, London, U.K., <http://www.springer.com/uk/>. Area of the proposal: Wireless LAN (Exact title: Confidential). (2008).
- Springer, London, U.K., <http://www.springer.com/uk/>. Area of the proposal: Wireless Sensor Networks (Exact title: Confidential). (August 2007).
- John Wiley & Sons, Chichester, U.K. <http://eu.wiley.com/WileyCDA/>. Area of the proposal: Information and Communication Technologies (ICT) (Exact title: Confidential). (June-July 2007).

#### COUNTRIES VISITED

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USA, Canada, UK, Germany, France, Italy, Switzerland, Netherlands, Luxembourg, Greece, Croatia, Poland, Malaysia, Singapore, Egypt, Tanzania.

#### NATIONAL/INTERNATIONAL COMMITTEES OF GOVT. OF INDIA

- 
- Coordinator, Swayam Prabha, free DTH channel for education, MHRD, Govt. of India.
  - Chair, Working Group on “IoT Security Guidelines for e-Governance Applications”, Ministry of Electronics and Information Technology (MeitY), Government of India, (2021-Present).
  - Member, Regional Advisory Group (RAG), National Bank for Agriculture and Rural Development (NABARD), Government of India, 2019.

#### INSTITUTE/DEPARTMENTAL ACTIVITIES

- 
- Department AC In charge (2020-present)
  - **Warden**, Meghnad Saha Hall of Residence, IIT Kharagpur (September 2017 – December 2019).
  - **Assistant Warden**, Meghnad Saha Hall of Residence, IIT Kharagpur (September 2014 – September 2017).
  - **Program Officer**, National Service Scheme (NSS), IIT Kharagpur (2010-2015)

- **Faculty Advisor**, M. Tech Second Year, CSE, IIT Kharagpur, 2017.
- **Faculty Advisor**, M. Tech First Year, CSE, IIT Kharagpur, 2016.
- In-Charge, Departmental Society, CSE, IIT Kharagpur, 2016.
- Centre Representative (In Charge), GATE Examination, Haldia, 2016.
- Centre Representative (In Charge), GATE Examination, Techno India University, Kolkata, 2015
- Centre Representative (In Charge), GATE Examination, Maris Stella College, Vijaywada, 2012.
- Annual and Convocation Report In-Charge, SIT, IIT Kharagpur, 2011-2012, 2014-2016.
- Anti-Ragging Vigilance, IIT Kharagpur, 2011-2012.
- IIT Kharagpur Diamond Jubilee Celebration Curtain Raiser Committee, 2011.
- Departmental ERP Representative, SIT, IIT Kharagpur, 2010-2016.
- Centre Representative (In Charge), IIT Joint Entrance Examination, Bhilai Institute of Technology, Durg, 2010.
- Centre Representative, GATE Examination, Delhi Public School, Ruby Park, Kolkata 2010.
- Centre Representative (In-Charge), IIT Joint Entrance Examination, Shatabdi Public School, Gaya, 2009.
- Doctoral Scrutiny Committee Member, Student: Soumya Maiti, School of IT, 2009-Present.
- Doctoral Scrutiny Committee Member, Student: Sajal Sarkar, Department of ECE, 2009-Present.
- Doctoral Scrutiny Committee Member, Student: Sayan Sarcar, School of IT, 2008-Present.
- Anti-Ragging Vigilance, IIT Kharagpur, 2008-2009.
- Doctoral Scrutiny Committee Member, Student: Debashish Kundu, School of IT , 2008-Present.
- Time-Table and Progress Report In-Charge, SIT, IIT Kharagpur, 2008-2009.
- Counselling, Graduate Aptitude Test in Engineering, 2008-2009.
- Centre Representative (In-Charge), IIT Joint Entrance Examination, Muzaffarpur MDDM College Centre, 2008.

## OTHER ACTIVITIES

---

- Vice Chair, Standards Activities, Technical Committee on Green Communications and Computing (TCGCC), 2023-Present.
- Juror, Aegis Graham Bell Awards (AGBA), Panel on IoT, Ministry of Electronics and Information Technology, Govt. of India, 2023.
- Member, Senate, IIIT Senapati, Manipur, March 2023 – Present.
- Workshops, Tutorials, and Symposia Officer, IEEE ComSoc Emerging Technologies Initiative (ETI) on Machine Learning in Communications (MLC), June 2022 - Present.
- Executive Council Member, ACM India, June 2022 – Present.
- Member, Board of Studies (BoS), Mizoram University, Kerala, May 2022 – Present.
- Member, Board of Studies (BoS), IIIT Naya Raipur, January 2022 – Present.
- Member, Board of Studies (BoS), School of Computer Science, Swami Vivekananda University, West Bengal, January 2022 – Present.
- Member, Board of Studies (BoS), School of Computer Science & Engineering, Digital University, Kerala, May 2021 – Present.
- Director, Communications Frontiers, IEEE ComSoc Multimedia Communications Technical Committee, 2022 - Present.
- Co-Director, Communications Frontiers, IEEE ComSoc Multimedia Communications Technical Committee, 2020-2021.
- Launched the Webinar Series on “Next-Generation IoT”, IEEE ComSoc TC-CommSoft, SIG on NFV and SDN Technologies.

- Launched the Joint Webinar Series on “Healthcare IoT”, IEEE ComSoc TC-eHealth, SIG on IoT for eHealth and TCGCC SIG on Pandemics.
- Expert Member, Academic Council, LNM Institute of Information Technology (LNMIIT), Jaipur, September 2021 - Present.
- Chair, IEEE ComSoc SIG on ”IoT for e-Health”, March 2021 - Present.
- Chair, IEEE ComSoc TCGCC SIG on “Green Computing and Communications Against Pandemics”, 2020-2021.
- Coordinator, IEEE ComSoc SIG on “NFV and SDN Technologies”, 2020-2021.
- Member, Board of Studies (BoS), Department of Computer Applications, Sikkim University, Jan 2020 – Present.
- Chair, Working Group for “IoT Security Guidelines for e-Governance Applications”, CDAC/MeiTy, Govt of India, 2020 – Present.
- Examiner of over 50 PhD Theses in India and overseas in institutes such as UNSW Australia, IISc Bangalore, IIT Hyderabad, IIT (ISM) Dhanbad, NIT Durgapur, etc.
- Member, Board of Studies (BoS), IIITDM, Kurnool, 2019 – Present.
- IEEE Communications Society Distinguished Lecturer, 2020-2021.
- IEEE Senior Member (Membership No. 90613632)
- IEEE Communications Society Member (2010-Present)
- Vice Chair, IEEE Kharagpur Section, 2020.
- Secretary, IEEE Kharagpur Section, 2019
- Treasurer, IEEE Kharagpur Section, 2018
- Assistant Secretary, IEEE Kharagpur Section, 2017
- Professional Activities Chair, IEEE Kharagpur Section, 2016
- Treasurer, IEEE Kharagpur Section (2015)
- Executive Committee Member, IEEE Kharagpur Section (2009-Present)
- ACM Distinguished Member (Membership No. 6295194) (2011-Present)
- Events Chair (Invited), Engineering Practice TAB, International Communication Sciences and Technology Association (ICST) (<http://www.icst.org>). (2007-2010).
- Executive Member, Spectrum ESAT, Nortel Networks, Canada (2000).
- Vice President (Communications), Graduate Students’ Association (GSA), UNB (1998).
- Chair, Graduate Students’ Orientation, UNB, Canada (1998).
- President, Indian Students’ Association, UNB, Canada (1998).

# LIST OF PUBLICATIONS & PATENTS

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## AUTHORED BOOKS

- [AB1] **S. Misra**, A. Mukherjee, and A. Roy, **Introduction to IoT**, Cambridge University Press, UK, 2021.
- [AB2] **S. Misra**, C. Roy, and A. Mukherjee, **Introduction to Industrial Internet of Things and Industry 4.0**, CRC Press, USA, 2020.
- [AB3] **S. Misra**, S. Sarkar, and S. Chatterjee, **Sensors, Cloud & Fog: Enabling Technologies for IoT**, CRC Press, USA, 2019.
- [AB4] **S. Misra** and S. Bera, **Smart Grid Technology: A Cloud Computing and Data Management Approach**, Cambridge University Press, U.K., 2018.
- [AB5] **S. Misra** and S. Goswami, **Network Routing: Fundamentals, Applications and Emerging Technologies**, John Wiley & Sons, Chichester, U.K., 2017.
- [AB6] **S. Misra**, B. K. Saha, S. Pal, **Opportunistic Mobile Networks: Advances and Applications**, Springer U.K., 2016.
- [AB7] M. S. Obaidat and **S. Misra**, **Principles of Wireless Sensor Networks**, Cambridge University Press, U.K., 2015.

## EDITED BOOKS

- [EB1] **S. Misra** and S. K. Pal (Eds.), **Soft Computing Applications in Sensor Networks**, CRC Press, October 2016, ISBN: 978-1482298758.
- [EB2] M. S. Obaidat and **S. Misra** (Eds.), **Cooperative Networking**, John Wiley & Sons, Chichester, U.K., September 2011, ISBN: 978-0470749159.
- [EB3] C. R. Kalmanek, **S. Misra** and R. Yang (Eds.), **Guide to Reliable Internet Services and Applications**, Springer-Verlag, London, U.K., 2010, ISBN 978-1-84882-827-8.
- [EB4] **S. Misra**, S. C. Misra and I. Woungang (Eds.), **Selected Topics in Communication Networks and Distributed Systems**, World Scientific, Singapore, July 2009, ISBN-10: 9812839437, ISBN-13: 978-9812839435.
- [EB5] I. Woungang, S. C. Misra and **S. Misra** (Eds.), **Selected Topics in Information and Coding Theory**, World Scientific, Singapore, June 2010, ISBN-10: 9812837167, ISBN-13: 978-9812837165.
- [EB6] **S. Misra**, I. Woungang and S. C. Misra (Eds.), **Guide to Wireless Sensor Networks**, Computer Communications and Networks Series, Springer-Verlag, London, U.K., June 2009, 809 pages, ISBN-10: 1848822170, ISBN-13: 978-1848822177. (One of the top 25% most downloaded eBooks in the relevant Springer eBook Collection in 2012)

- [EB7] **S. Misra**, I. Woungang and S. C. Misra (Eds.), **Guide to Wireless Ad Hoc Networks**, Computer Communications and Networks Series, Springer-Verlag, London, U.K., February 2009, 632 pages, ISBN-10: 1848003277, ISBN-13: 978-1848003279. (One of the top 25% most downloaded eBooks in the relevant Springer eBook Collection in 2012)
- [EB8] **S. Misra**, S. C. Misra and I. Woungang (Eds.), **Guide to Wireless Mesh Networks**, Springer-Verlag, London, U.K., December 2008, ISBN-10: 1848009089, ISBN-13: 978-1848009080. (One of the top 50% most downloaded eBooks in the relevant Springer eBook Collection in 2012)

## PATENTS/COPYRIGHTS FILED

- [P1] R. Saha, A. Ghosh, and **S. Misra**, “Confidant: An Internet of Things-based System and Method for Mental Health Monitoring and Support,” Indian Patent, Application No.: 202431034007 filed on Apr. 29, 2024.
- [P2] B. Ghosh, A. Ghosh, and **S. Misra**, “An Edge Intelligence based Programmable Logic Controller,” Indian Patent, Application No.: 202431032957 filed on Apr. 25, 2024.
- [P3] A. Ghosh, B. Ghosh, R. Saha, **S. Misra**, and A. Roy, “System for Real Time Intrusion Detection, Actuation and Alert and Method thereof,” Indian Patent, Application No.: 202431021131 filed on Mar. 20, 2024.
- [P4] K. Ray, I. Roy, B. Ghosh, N. Das, **S. Misra**, ”Tailor Tech-Tape: A Smart Tape for Cloth Size Suggestion,” Indian Patent, Application No.: 202431031888 filed on 22/04/2024.
- [P5] D. Tandur, K. Sarkar, **S. Misra**, “METHOD, DEVICE AND SYSTEM OF DYNAMIC ALLOCATION OF BLOCKCHAIN RESOURCES”. Indian Patent Filed, Application No. 202341023069, Date: 29 March 2023.
- [P6] D. Das, V. Udutalapally, J. Prajapati, **S. Misra**, R. Mahapatra, ”HemOctor” on computer application software for Smartphone, Indian Copyright Filed, Diary no. 12055/2022-CO/SW, Dated 07.06.2022
- [P7] S. C. Misra, D. Das, **S. Misra**, V. Udutalapally, N. Sengar, A. Ghosh, Tanushree Pan “Wireless Network Device For Wireless Communication With User Devices In A Wireless Communication Network,” Indian Patent, Application No. 202311028663 filed on April 20, 2023.
- [P8] S. C. Misra, D. Das, **S. Misra**, V. Udutalapally, A. Gupta, “A Continuous Lung Health Monitoring System”, Indian Patent, Application No. 202311027111 filed on April 12, 2023.
- [P9] S. C. Misra, D. Das, V. Udutalapally, **S. Misra**, N. Sengar, A. Ghosh, “Blockchain-Enabled Iot System And Method For Securing Real Time Data In A Microcontroller-Based Blockchain Network” Indian Patent, Application No. 202211070221 filed on December 6, 2022.
- [P10] **S. Misra**, S. Pal, A. Ghosh, “Modularized IoT-based on-demand ambulatory hospital recommender system”, Indian Patent Filed, Appl. No. 202231008007.
- [P11] **S. Misra**, D. Das, V. Udutalapally, A. Ghosh, P. K. Deb, “A Secured Automated Power Control and Management System for Legacy IOT Infrastructures”, Indian Patent Filed, Appl. No. 202131038016, Filed on Aug 23, 2021.

- [P12] D. Das, U. Venkanna, R. Mahapatra, A. R. Sindhu, **S. Misra**, “Device and Method For Measuring Hemoglobin,” Indian Patent (Filed), Application No. 202031050193 A, Date 20/11/2020.
- [P13] P. Joshi, D. Das, V. Udutalapally, J. Prajapati, R. Mahapatra, **S. Misra**, “A method and system for screening Crop Health Index,” Indian Patent (Filed), Application No. 202121025583, 20/08/21
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