

SAYAK ROYCHOWDHURY

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CURRENT POSITION

- **Department of Industrial and Systems Engineering, Indian Institute of Technology, Kharagpur, India: Assistant Professor Grade -I** since July 2018.

EDUCATION

- **The Ohio State University** (Columbus, OH, USA), **Ph.D in Industrial and Systems Engineering**, Aug 2017.
- **The Ohio State University**, **M.S. in Industrial and Systems Engineering (ISE)**, Aug 2014.
- **Jadavpur University** (Kolkata, India), **B.E. in Electrical Engineering** Dec 2008.

INDUSTRIAL EXPERIENCE (4+ years)

- **Netjets Inc., Senior Operational Analyst:** Columbus, OH, USA, June 2017-July 2018
- **Ford, Data Science Intern (Global Data Insight & Analytics):** Dearborn, MI, USA May 2016-August 2016
- **Siemens, Executive Engineer:** Kolkata, India July 2008-June 2011

COURSES TAUGHT

1. **Statistical Process Control (IM60023)**
2. **Quality Engineering (IM31002)**
3. **Applied Multivariate Statistical Modelling II (IM60056)**
4. **Quality Design and Control Laboratory (IM39005)**
5. **Statistical Quality Control (ISE4120)** (Taught in The Ohio State University)

ADMINISTRATIVE POSITIONS

- Faculty Adviser of incoming UG Batch, ISE, IIT Kharagpur 2019
- Examination-in-charge (along with Prof. J.K. Jha), ISE, IIT Kharagpur 2019
- Member of Departmental Faculty Recruitment Committee, ISE, IIT Kharagpur 2019

PROJECT SUPERVISION

- **ISIRD 2019: Development of Reinforcement Learning Methods for Cybersecurity and Reliability for a Fleet of Remote Unmanned Mobile Units**, IIT Kharagpur 2019

COURSE/LABORATORY DEVELOPMENT

- Restructuring curriculum of Design for Assembly and Automation (IM31014) with Prof. Soumyanath Chatterjee
- Restructuring curriculum of Quality Design and Control Laboratory.

STUDENT MENTORSHIP

- Akshay Bhosale (PhD, ongoing)
- Saptarshi Das (PhD, jointly with Prof. J. Maiti: ongoing)
- Ashish Kumar, Sourabh Singhal, Sharayu Dhoke (M. Tech, Dual Degree)

PUBLICATIONS

- Liu, E., Allen, T. T., & Roychowdhury, S. (2019). Cyber vulnerability maintenance policies that address the incomplete nature of inspection. *Applied Stochastic Models in Business and Industry*, 35(6), 1390-1410.
- Allen, T. T., Roychowdhury, S., & Liu, E. (2018). Reward-based Monte Carlo-Bayesian reinforcement learning for cyber preventive maintenance. *Computers & Industrial Engineering*, 126, 578-594.
- Roychowdhury, S., Allen, T. T., & Allen, N. B. (2017). A Genetic Algorithm with an Earliest Due Date Encoding for Scheduling Automotive Stamping Operations. *Computers & Industrial Engineering*.

CONFERENCE PROCEEDINGS

- Allen TT, Hernandez OK, Roychowdhury S, Patterson ES. Practical optimal scheduling for surgery. In *Proceedings of the International Symposium on Human Factors and Ergonomics in Health Care 2020 Jul* (in press, July 2020). Sage CA: Los Angeles, CA: SAGE Publications. [peer-reviewed]
- Roychowdhury, S. and Brevick J.R. (2014), Investigation of Flash-free Die Casting, *NADCA Transactions* (2014).

CONFERENCE PRESENTATIONS

- Roychowdhury, S. and Allen, T. T. (2016), Optimal Learning with Bayesian Adaptive Markov Decision Process for Cyber Vulnerability Analysis. *Contributed INFORMS Abstract*.
- Roychowdhury, S. and Allen, T. T. (2015), Heuristic Methods For Automotive Stamping Scheduling. *Contributed INFORMS Abstract*.
- Roychowdhury, S. and Allen, T. T. (2014), Sequential Kriging Optimization to Determine the Cost Effective Number of Early Voting Days. *Invited INFORMS Abstract*.

- Roychowdhury, S. and Allen, T. T. (2014), Hybrid Sequential Kriging Optimization using Gradient Descent. Invited INFORMS Abstract.
- Roychowdhury, S. and Allen, T. T. (2013), Addressing Multiple Responses Using Sequential Kriging Optimization. Contributed. JSM Abstract.