

SHAHRIAR TANVIR ALAM

1478 W Jefferson Blvd, Los Angeles, CA | (213) 913-8054 | alams@usc.edu, shahriar@ipe.mist.ac.bd | [LinkedIn](#) | [Website](#)

EDUCATION

University of Southern California August 2023 – Present
Doctor of Philosophy in Industrial and Systems Engineering

University of Southern California August 2024 – May 2026
Master of Science in Industrial and Systems Engineering [CGPA: 3.96/4.00]

Military Institute of Science and Technology March 2016 – December 2019
Bachelor of Science in Industrial and Production Engineering [CGPA: 3.91/4.00] (1st among 60 students)

GRADUATE CERTIFICATE

University of Southern California August 2025 – Present
PhD Certificate, Operations Research and Artificial Intelligence [CGPA: 4.00/4.00]
A National Research Traineeship program supported by the National Science Foundation (NSF).

TECHNICAL SKILLS

- Programming Languages : Python, R
- Data Analytics & Visualization : Design Expert, Minitab, NumPy, Pandas, Matplotlib, Excel
- Optimization Software : Gurobi, CPLEX

WORK EXPERIENCE

Research Assistant, University of Southern California, Los Angeles, CA August 2023 – Present

- Created an Integer Programming (IP) model for a collaborative truck-drone parcel delivery system considering en-route launching and recovery points for the drone and formulated a heuristic algorithm for solving large problem instances.
- Analyzed the asymptotic behavior for the collaborative truck-drone parcel delivery system considering en-route launching and recovery points.
- Formulated a Dynamic Programming-based Algorithm and General Variable neighborhood Search metaheuristics for solving a large instance flexible truck-drone collaborative parcel delivery system.
- Developed an exact algorithm for a single recharging station on a general network, considering the maximum flow of electric vehicles.

Teaching Assistant, University of Southern California, Los Angeles, CA. August 2024 – Present

- Courses: ISE 536 – Linear Programming and Extensions, ISE 529 – Predictive Analysis, ISE 435 - Discrete Systems Simulation

Lecturer, Military Institute of Science and Technology, Bangladesh January 2020 – July 2023

- Course Instructor: Quality Management, Operations Research, Numerical Analysis, Supply Chain Management, Probability and Statistics, Material Handling and Maintenance Management, Project Management, Engineering Economy.

Data Scientist Intern, Unilever Bangladesh Ltd, Chattogram, Bangladesh November 2017 – January 2018

- Implement an inspection plan to identify best maintenance practices on the production floor, resulting in a 1.49% cost reduction.
- An integrated RSM-ANN technique was proposed to predict the profit pattern and forecast expected understock. A paper was prepared titled “Profit-oriented Pricing Combinations using RSM-ANN” and is under review at the *Journal of Operations Research Forum*.
- Applied the IE tool to reduce the bottleneck on the production floor.
- Established a data-driven improvement plan in inventory control and logistics workflows.

PUBLICATIONS

- **Alam, S.T.**, Ahmed, S., Ali, S.M., Sarker, S., Kabir, G., ul-Islam, A., 2021. Challenges to the COVID-19 vaccine supply chain: Implications for sustainable development goals. *International Journal of Production Economics* ([paper link](#)). (Impact Factor: 9.8)
- Nayeem, M.K., **Alam, S.T.**, 2022. A scenario-based stochastic programming model for multi-commodity distribution considering disruption in distribution network. *Results in Control and Optimization*. Vol 8 ([paper link](#)).
- Firaoui, R. M., Khan, S. A., **Alam, S.T.**, Shamleh, J. B. A., Marzouki, B., Elabed I. E., 2023. A Simulation-Based Study to Evaluate and Improve University Parking Space. *International Journal of Services and Operations Management*. Vol 49 ([paper link](#)).
- Bhalaji, R.K.A., Bathrinath, S., **Alam, S.T.**, Hossain, Niamat Ullah Ibne., Ali, S.M, Koppiahraj, K., 2021. A decision support model for evaluating risks in a collaborative supply chain of the medical equipment manufacturing industry. *Supply Chain Forum: An International Journal*. Vol 22 ([paper link](#)).

- **Alam, S.T.**, Tomal, A.N.M.A., Nayeem, M.K., 2023. High-Speed Machining of Ti-6Al- 4V: RSM-GA Based Optimization of Surface Roughness and MRR. *Results in Engineering*. Vol 17 ([paper link](#)). **(Impact Factor: 6)**
- C. Shah, N. U. Ibne Hossain, M. M. Khan, and **Alam, S. T.**, 2023. A dynamic bayesian network model for resilience assessment in blockchain-based internet of medical things with time variation. *Healthcare Analytics*. Vol 4 ([paper link](#)).
- **Alam, S.T.**, Uddin, A.S. & Azrin, F.A., 2024. Assessment of University Parking Management System: A Simulation-Based Study. *Mathematical Models and Computer Simulations*. Vol 16 ([paper link](#)).
- Ahmed, M., Bashar, I., **Alam, S.T.**, Wasi, A.I., Jerin, I., Khatun, S., Rahman, M., 2021. An overview of Asian cement industry: Environmental impacts, research methodologies and mitigation measures. *Sustainable Production and Consumption*. ([paper link](#)) **(Impact Factor: 10.9)**.
- Khan, M. M., Xames, M. D., Mahmud, P., **Alam, S. T.**, & Ibne Hossain, N. U., 2023. Economic Performance Analysis of a Resilient and Sustainable Supply Chain: Adoption of Electric Vehicles as a Sustainable Logistics Option. *Data Analytics for Supply Chain Networks* (N. U. Ibne Hossain (ed.); pp. 197–210) ([paper link](#)) [Chapter 7].
- **Alam, S.T.**, Amin, A.N., Hossain, M.I., Huq, M., Tamim, S.H., 2021. Performance evaluation of graphite and Titanium Oxide powder mixed dielectric for electric discharge machining of Ti–6Al– 4V. *SN Applied Science*. Vol 3 ([paper link](#)).
- **Alam, S.T.**, Uddin, A.S.M., Azrin, F.A., 2024. Assessment of Smart Supply Chain Production Floor Based on the Inspection of Final Products: A Simulation-Based Study. *Lecture Notes in Networks and Systems* ([paper link](#)).
- Asif, M.K.A., **Alam, S.T.**, Jahan, S., Arefin, M.R., 2022. An Empirical Analysis of Exact Algorithm for Solving Non-Preemptive Flow Shop Scheduling Problem. *International Journal of Research in Industrial Engineering*. Vol 11 ([paper link](#)).
- Uddin, A.S.M.N., Azrin, F.A., **Alam, S.T.**, 2023. Assessment of Appropriate Production Process: A Simulation-Based Study. *International Journal of Services and Operations Management*.
- **Alam, S.T.**, Khan, M. M., & Nayeem, M. K., 2023. *An Assessment of Decision-Making in Resilient and Sustainable Projects Between Literature and Practice*. *Data Analytics for Supply Chain Networks* (N. U. Ibne Hossain (ed.); pp. 107–128) ([paper link](#)). [Chapter 4]

POSTER PRESENTATION

- **Alam, S.T.**, Nayeem, M. K., Omar, A., Poster Title: “A Simulation-Based Study for Assessing the Performance of Production Floor. INFORMS Annual Meeting. Phoenix, Arizona, October 15-18, 2023.
- Nayeem, M. K., **Alam, S.T.**, Omar, A., Poster Title: “An Integrated RSM -ANN Technique to Predict the Optimal Pricing Strategy.” INFORMS Annual Meeting. Phoenix, Arizona, October 15-18, 2023.

CONFERENCE PRESENTATION

- 2023 INFORMS Annual Meeting, Phoenix, Arizona, October 15-18, 2023.
- First Australian Conference on Industrial Engineering and Operations Management, Sydney, Australia, December 20-22, 2022.
- 11th Annual International Conference on Industrial Engineering and Operations Management, Singapore, March 7-11, 2021.
- 5th North American International Conference on Industrial Engineering and Operations Management, Detroit, Michigan, USA, August 10-14, 2020.
- International Conference on Innovations in Data Analytics, India, November 29-30, 2023.
- 5th EAI International Conference on Big Data Innovation for Sustainable Cognitive Computing, Coimbatore, India, December 16-17, 2022.
- 2nd International Conference in Mechanical Engineering and Applied Science, Dhaka, Bangladesh, December 08-10, 2022.
- International Conference on Mechanical, Industrial and Energy Engineering. Khulna, Bangladesh, December 19-21, 2020.

LEADERSHIP AND AWARDS

- Programming Chair, INFORMS USC Student Chapter, Los Angeles, CA, USA, July 2025 – Present.
- Viterbi Graduate Mentor, International Graduate Mentorship Program, USC, August 2025 – Present.
- Faculty Advisor, Industrial Engineering and Operations Management (IEOM) MIST Student Chapter, MIST, 2021 – 2023.
- Session Chair, 11th International Conference on Industrial Engineering and Operations Management, March 7-11, 2021, Singapore, and 5th Industrial Engineering and Operations Management Bangladesh Conference, Dhaka, Bangladesh, December 26-28, 2022.
- USC Graduate School fellowship and Provost fellowship, 2023 – 2024.
- Dean’s Award and Valedictorian Award, MIST, 2019.
- MIST Medal 2019
- Best Paper Award (Data Science and Analytics), Proceedings of the 2nd International Conference on Innovations in Data Analytics, India, November 29-30, 2023.
- Best Track Paper Award (Product Design and Development), Proceedings of 5th North American International Conference on Industrial Engineering and Operations Management, Detroit, Michigan, USA, August 10-14, 2020.