

Shahriar Tanvir Alam

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Current Position

Graduate Research and Teaching Assistant, Daniel J. Epstein Department of Industrial & Systems Engineering, University of Southern California, Los Angeles, CA, USA

Education

University of Southern California (USC) Los Angeles, CA, USA
Doctor of Philosophy (PhD) in Industrial & Systems Engineering
August 2023 – Present
Supervisor: [Dr. Maged M. Dessouky](#)

University of Southern California (USC) Los Angeles, CA, USA
Master of Science (MS) in Industrial & Systems Engineering
August 2024 – May 2026
CGPA: 3.96/4.00
Supervisor: [Dr. Maged M. Dessouky](#)

Military Institute of Science and Technology (MIST) Dhaka, Bangladesh
Bachelor of Science in Industrial and Production Engineering
2016 – 2019
CGPA: 3.91/4.00 (Last 2 Years Average GPA: 3.94/4.00) (1st among 60 students)
Supervisor: [Dr. AKM Nurul Amin](#)

Graduate Certificate

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

Academic Appointments

University of Southern California (USC), Los Angeles, CA, USA
Graduate Research and Teaching Assistant, Department of Industrial & Systems Engineering
August 2023 – Present

Military Institute of Science and Technology, Dhaka, Bangladesh
Lecturer, Department of Industrial and Production Engineering
January 2020 – July 2023

Research Collaboration

Arkansas State University Arkansas, USA
Engineering Management Department, College of Engineering and Computer Science
June 2022 – January 2023
Member, Dr. Niamat Ullah Ibne Hossain Research Group

University of Regina Saskatchewan, Canada
Department of Industrial System Engineering
January 2022 – June 2022
Member, Dr. Sharfuddin Ahmed Khan Research Group

Bangladesh University of Engineering and Technology Dhaka, Bangladesh
Department of Industrial and Production Engineering
January 2020 – December 2021
Member, Dr. Syed Mithun Ali Research Group

Military Institute of Science and Technology Dhaka, Bangladesh
Department of Industrial and Production Engineering
October 2018 – November 2019
Member, Dr. AKM Nurul Amin Research Group

- [1] **Alam, S.T.**, Ahmed, S., Ali, S.M., Sarker, S., Kabir, G., ul-Islam, A., 2021. Challenges to COVID-19 vaccine supply chain: Implications for sustainable development goals. *International Journal of Production Economics (Elsevier)*. Volume 239, 108193. <https://doi.org/10.1016/j.ijpe.2021.108193> (Impact Factor: 10)
- [2] 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 (Elsevier)*. Volume 28, (October) Page 1018–1039. <https://doi.org/10.1016/j.spc.2021.07.024> (Impact Factor: 9.6)
- [3] 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 (Taylor & Francis online)*. Volume 22, Issue 3, Page 227–251. <https://doi.org/10.1080/16258312.2021.1989268> (Impact Research Experience Factor: 3.7)
- [4] **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 (Elsevier)*. Volume 17, (March) 100873. <https://doi.org/10.1016/j.rineng.2022.100873> (Impact Factor: 7.9)
- [5] 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 (Elsevier)*. Volume 8, 100167. <https://doi.org/10.1016/j.rico.2022.100167> (CiteScore: 3.2)
- [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 (Elsevier)*. Volume 4, 100280. <https://doi.org/10.1016/j.health.2023.100280> (CiteScore: 11.2)
- [7] 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 (Inderscience Enterprises Ltd)*. Volume 49, Issue 3, Page 265–288. <https://doi.org/10.1504/IJSOM.2024.143066> (CiteScore: 1.4)
- [8] 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 (Inderscience Publishers)*. Volume 45. <https://doi.org/10.1504/IJSOM.2025.149985> (CiteScore: 1.4)
- [9] **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 (Springer)*. Volume 3, Issue 3, Page 1 12. <https://doi.org/10.1007/s42452-021-04450-6>
- [10] **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 (Springer)*. Volume 16, Issue 3, Page 486–503. <https://doi.org/10.1134/S2070048224700170>
- [11] 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*. Volume 11, Issue 4. <http://doi.org/10.22105/riej.2022.350120.1324>
- [12] **Alam, S.T.**, 2020. Formulation of a customer-oriented product and determination of optimum design parameters using response surface methodology. *International Journal of Research in Industrial Engineering*. Volume 9, Issue 4, Page 349–363. <http://doi.org/10.22105/riej.2020.256074.1147>
- [13] **Alam, S.T.**, Amin, M.A., 2020. Determining Optimum Design Parameters of Foldable Product Using Response Surface Methodology and Genetic Algorithm. *Engineering*. Volume 12, Issue 11, Page 839–850. <https://doi.org/10.4236/eng.2020.1211059>

Publications Under Review:

- [1] **Alam, S.T.**, Ahmed, T., Haque, T., Mahmud, M.S., 2025. An Integrated RSM-ANN Technique to Predict the Optimal Pricing Strategy.
- [2] Abdalla, R., Khan, S.A., **Alam, S.T.**, Kabir, G., 2025. A hierarchical model to explore interrelationships among solar park project risk.
- [3] **Alam, S.T.**, Ali, S.M, Mahmud, P., Sharmin, A., Ahmed, S., Bathrinath, S., 2025. Where challenges to operational and supply chain management need an evaluation: Implications for quality management.

Peer-Reviewed Book Chapters

- [1] **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). *Springer International Publishing*. https://doi.org/10.1007/978-3-031-29823-3_4 [Chapter 4]
- [2] 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). *Springer International Publishing*. https://doi.org/10.1007/978-3-031-29823-3_7[Chapter 7]

Peer-Reviewed Conference Papers

- [1] **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. In: *Bhattacharya, A., Dutta, S., Dutta, P., Samanta, D. (eds) Innovations in Data Analytics. ICIDA 2023. Lecture Notes in Networks and Systems, vol 972. Springer, Singapore*. https://doi.org/10.1007/978-981-97-3466-5_4
- [2] **Alam, S.T.**, Azrin, F.A., Uddin, A.S.M., 2024. Formulation and Performance Assessment for Multiple Server Queuing Models. In: *Bhattacharya, A., Dutta, S., Dutta, P., Samanta, D. (eds) Innovations in Data Analytics. ICIDA 2023. Lecture Notes in Networks and Systems, vol 972. Springer, Singapore*. https://doi.org/10.1007/978-981-97-3466-5_3
- [3] **Alam, S. T.**, Sagor, E., Ahmed, T., Haque, T., Mahmud, M. S., Ibrahim, S., Shahjahan, O., & Rubaet, M., 2023. A Comparative Analysis of Assignment Problem . *5th EAI International Conference on Big Data Innovation for Sustainable Cognitive Computing (A. Haldorai, A. Ramu, & S. Mohanram (eds.); pp. 125–142). Springer Nature Switzerland*. https://doi.org/10.1007/978-3-031-28324-6_11
- [4] Nayeem, M.K., Omar, A., **Alam, S. T.**, 2023. A Multi-objective Stochastic Model For Designing Reverse Logistics Network Of End-of-life Building As Disaster Preparedness. *Institute for Operations Research and the Management Sciences – INFORMS Annual Meeting. Phoenix, Arizona, October 15-18*.
- [5] **Alam, S. T.**, Azrin, F.A., Uddin, A.S.M.N., Nayeem, M.K., 2023. Assessment of Performance of The Production Floor Based on The Impact of The Raw Materials Queue. *Institute for Operations Research and the Management Sciences – INFORMS Annual Meeting. Phoenix, Arizona, October 15-18*.
- [6] **Alam, S.T.**, Humayra, I., 2020. A foldable product: Implementing techniques of product design process. *Proceedings of 5th North American International Conference on Industrial Engineering and Operations Management, Detroit, Michigan, USA, August 10-14*.
- [7] Amin, A.K.M.N., **Alam, S.T.**, Islam, M., Amin, M.A., Bashar, M., 2020. An Experimental Investigation of High-Speed End Milling of Ti-6Al-4V Alloy. *Proceedings on International Conference on Mechanical, Industrial and Energy Engineering. Khulna, Bangladesh, December 19-21*.

Ongoing Research

- [1] **Alam, S.T.**, Dessouky, M. M., 2026. Asymptotic Behavior for the Collaborative Truck-Drone Parcel Delivery System Considering En-Route Launching and Recovery Points
- [2] **Alam, S.T.**, Dessouky, M. M., 2026. An Efficient Algorithm for Solving Collaborative Truck-Drone Parcel Delivery System Considering En-Route Launching and Recovery Points
- [3] **Alam, S.T.**, Dessouky, M. M., 2025. Exact Algorithm for A Single Recharging Station on A General Network.

Poster Presentation

- [1] **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.
- [2] 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. Proceedings on International Conference on Mechanical, Industrial and Energy Engineering. Khulna, Bangladesh, December 19-21.

Conference Presences

- [1] 2023 INFORMS Annual Meeting, Phoenix, Arizona, October 15-18, 2023.
- [2] International Conference on Continuous Optimization, ICCOPT VIII, Los Angeles, California, July 20-24, 2025.
- [3] First Australian Conference on Industrial Engineering and Operations Management, Sydney, Australia, December 20-22, 2022.
- [4] 11th Annual International Conference on Industrial Engineering and Operations Management, Singapore, March 7-11, 2021.
- [5] 5th North American International Conference on Industrial Engineering and Operations Management, Detroit, Michigan, USA, August 10-14, 2020.
- [6] International Conference on Innovations in Data Analytics, India, November 29-30, 2023.
- [7] 5th EAI International Conference on Big Data Innovation for Sustainable Cognitive Computing, Coimbatore, India, December 16-17, 2022.
- [8] 2nd International Conference in Mechanical Engineering and Applied Science, Dhaka, Bangladesh, December 08-10, 2022.
- [9] International Conference on Mechanical, Industrial and Energy Engineering. Khulna, Bangladesh, December 19-21, 2020.

Research Interests

- | | |
|------------------------------|----------------------------|
| ○ Transportation Systems | ○ Data Driven Optimization |
| ○ Operations Research | |
| ○ Combinatorial Optimization | ○ Supply Chain |

Awards and Fellowships

- **Provost Fellowship** 2023-2028
University of Southern California (USC), four year annual stipend of \$42,000
Awarded to an elite group of students selected to join the Industrial & Systems Engineering (ISE) department for a Doctoral Program by Viterbi School of Engineering/Graduate School Fellowship for Incoming Students at University of Southern California.
- **MIST Medal 2019** 2019
Department of Industrial and Production Engineering, Military Institute of Science and Technology
1st among 60 students of the IPE department. Maximum CGPA among the Faculty of Mechanical Engineering (FME) (FME includes Mechanical Engineering Department, Industrial and Production Engineering Department, Aeronautical Department, Naval and Marine Engineering Department).
- **Dean's Honor List** 2016-2019
Department of Industrial and Production Engineering, Military Institute of Science and Technology
Awarded for achieving a CGPA above 3.75 in two consecutive semesters.
- **University Merit Scholarship** 2016-2019
Department of Industrial and Production Engineering, Military Institute of Science and Technology
Awarded for achieving top three class positions in a semester.
- **Best Paper Award** 2023
Proceedings of 2nd International Conference on Innovations in Data Analytics, India, November 29-30, 2023
Awarded in "Data Science and Data Analytics" section
- **Best Track Paper Award** 2020
Proceedings of 5th North American International Conference on Industrial Engineering and Operations Management, Detroit, Michigan, USA, August 10-14, 2020.
Awarded in "Product Design and Development" section

Teaching and Journal Reviewing Experience

University of Southern California (USC)

Teaching Assistant for ISE 536: Linear Programming and Extensions

Fall 2024

Teaching Assistant for ISE 529: Predictive Analysis

Fall 2024, Spring 2025

Teaching Assistant for ISE 435: Discrete Systems Simulation

Fall 2025, Spring 2026

Military Institute of Science and Technology (MIST)

IPE 305: Operations Research

Spring 2021, Spring 2022, Spring 2023

IPE 315: Numerical Analysis

Fall 2021, Fall 2022

IPE 405: Supply Chain Management

Spring 2021, Spring 2022, Spring 2023

IPE 309: Materials Handling and Maintenance Management

Fall 2020, Fall 2021, Fall 2022

IPE 207: Engineering Economy

Fall 2020

IPE 415: Project Management

Spring 2022

IPE 310: Materials Handling and Maintenance Management Sessional

Fall 2020, Fall 2021, Fall 2022

IPE 306: Operations Research Sessional

Spring 2023

IPE 418: Industrial Automation Sessional

Spring 2023

Journal Reviewer

Elsevier Publisher

Journal of Cleaner Production, Operations Research Perspectives, Results in Control and Optimization, Supply Chain Analytics, Heliyon, Results in Engineering, Sustainable Futures.

Springer Publisher

Biomass Conversion and Biorefinery, Health Services.

IEEE Xplore Publisher

IEEE Transactions on Engineering Management.

Leadership Experience

INFORMS USC Student Chapter

July 2025-Present

Department of Industrial & Systems Engineering

Programming Chair

Industrial Engineering and Operations Management (IEOM) MIST Student Chapter *January 2021 – July 2023*

Department of Industrial and Production Engineering

Faculty Advisor

11th International Conference on Industrial Engineering and Operations Management, Singapore, March 2021

Session Chair

5th Industrial Engineering and Operations Management Bangladesh Conference, Bangladesh, December 2022

Session Chair

International Graduate Mentorship Program, USC

August 2025-Present

Viterbi School of Engineering, University of Southern California (USC)

Viterbi Graduate Mentor

Bangladesh Student Association, USC

August 2025-Present

University of Southern California (USC)

Treasurer

Computer and Soft Skills

- **Drawing and Drafting:** Design Expert, ARENA
- **Programming:** Python, CPLEX, R, Gurobi, C