

FAZLA RABBI

Instructor of Engineering Management Program

153 Lab Science West, Arkansas State University, State University, AR 72467

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Education

M.Sc. in Engineering Management

2022 – 2024

Arkansas State University, Jonesboro, AR, USA

CGPA: 4.0/4.0

Thesis: *The Application of Process Mining Algorithms to Surgical Training in Healthcare Settings*

B.Sc. in Mechanical Engineering, Ahsanullah University of Science & Technology, BD

2015 – 2020

Thesis: *Study of Heat Enhancement Using Minimum Quantity Lubrication (MQL) in Horizontal Milling Machine*

Academic Experience

Instructor, Department of Engineering Management

August 2024 – Present

College of Engineering & Computer Science, Arkansas State University

Graduate Research Assistant, Department of Engineering Management

August 2022 – August 2024

College of Engineering & Computer Science, Arkansas State University

Industrial Experience

Senior Assistant Engineer, Mechanical Maintenance Section

August 2021 – March 2022

Sharaf Washing & Dying Ltd., Sharmin Group

Trainee Engineer, Mechanical Maintenance Section

October 2020 – August 2021

Sharaf Washing & Dying Ltd., Sharmin Group

Research Experience

Research Assistant

August 2022 – August 2024

↔ *Arkansas State University*

- Implement a robust process mining framework of Central Venous Catheter surgical training for hospital residents.
- Develop a secure and loss-preventive Machine Learning model to detect cyber-malware attacks.
- Performed network analysis from 200K+ Twitter followers, gained insights on the market trend of digital twin and industry 5.
- Design maternal health risk, cardiovascular, and liver cirrhosis disease detection machine learning model.

Research Team Leader

January 2019 – April 2020

↔ *Ahsanullah University of Science & Technology*

- Conducted over 30 heat transfer experiments on Mild Steel, Stainless Steel, and High Carbon Steel using Dry, Flooded, and MQL methods.
- Analyzed machining parameters, optimizing heat transfer efficiency by up to 25% and improving surface quality by 15% in MQL processes.
- Collected and compared data on temperature, tool life, and surface roughness, reducing tool wear by 20% and enhancing overall machining performance.

Courses Taught

Arkansas State University, US:

- EGRM 44003 Engineering Management Design I: Fall 2024-26
- CNMG 44003 Construction Management Design I: Fall 2024-26
- EMGT 44073 Facilities Management Systems: Fall 2026
- EMGT 44033 Value Engineering Systems: Fall 2026
- EMGT 33003 Technical Entrepreneurship: Summer 2025, Fall 2026
- EGRM 6083 Advance Project Management & Practice: Summer 2026

- **EGRM 6143 Industrial Material Handling:** Summer 2025-26
- **EGRM 6003 Engineering Statistics:** Fall 2025, Spring 2025-26,
- **EGRM 4013 Engineering Management Design II:** Spring 2025-26
- **CM 4013 Construction Management Design II:** Spring 2025-26
- **EGRM 6113 Finance and Budgeting for Engineering:** Spring 2025-26
- **EGRM 3013 Project Management & Practice:** Spring 2026
- **EGRM 6043 Operations Research:** Fall 2025
- **EGRM 6063 Engineering and Computer Science Law and Ethics:** Fall 2024-25
- **EGRM 6123 Human Resource Management for Engineers:** Spring 2025

Publications

17 Publications in peer-reviewed journals & conference proceedings / 93 citations according to Google Scholar as of August 2026.

Publications in refereed journals

- RR Rudra, **F Rabbi**, SK Sarker, NUI Hossain, *Unraveling the Climate Induced Drought Impacts on Crop Pattern Distribution Using Machine Learning Algorithms*, Environmental Development, 58, 101397, 2026. <https://doi.org/10.1016/j.envdev.2025.101397>
- **F Rabbi**, NUI Hossain, S Das, A Sokolov, *A Comparative Analysis of Machine Learning Techniques in Detecting Probing Attack*, Expert Systems with Applications, 126718, 2025. <https://doi.org/10.1016/j.eswa.2025.126718>
- **F Rabbi**, D Banik, NUI Hossain, A Sokolov, *Using Process Mining Algorithms For Process Improvement In Healthcare*, Healthcare Analytics, 5, 100305, 2024. <https://doi.org/10.1016/j.health.2024.100305>
- MA Islam, **F Rabbi**, NUI Hossain, R Fleming, A Sokolov, *Disaster detection from social media data using a deep learning approach: Application of NLP and CNN*, Social Network Analysis and Mining, 14, 213, 2024. <https://doi.org/10.1007/s13278-024-01374-y>

Publications in refereed conference proceedings

- **F Rabbi**, NUI Hossain*, A Sokolov, *Detecting Wildfires Using Deep Learning for Sustainable Environmental Management*, Conference Proceedings, IISE Annual Conference & Expo, Arlington, TX 2026. [ResearchGate](#)
- I Ahmed, **F Rabbi***, A Sokolov, *Projecting Injury Risk of Soccer Players in the Next Season by Leveraging Various Machine Learning Algorithms*, Conference Proceedings, IISE Annual Conference & Expo, Arlington, TX 2026. [ResearchGate](#)
- I Ahmed, **F Rabbi***, A Sokolov, NUI Hossain, *Smart Diagnosis: Early Detection of Chronic Kidney Diseases with Machine Learning Algorithms*, Conference Proceedings, IISE Annual Conference & Expo, Arlington, TX 2026. [ResearchGate](#)
- S Raut, **F Rabbi***, NUI Hossain, R Jaradat, A Gorod, R Buchanan, *Interpretable and Explainable AI for Predicting Systems Thinking Skills*, 2026 IEEE International Systems Conference (SysCon), Halifax, NS, Canada [10.1109/SysCon66367.2026.11503576](#)
- **F Rabbi**, S Raut, NUI Hossain*, A Sokolov, *Study of Primary Biliary Cirrhosis Prediction Using Machine Learning Algorithms*, American Society for Engineering Management 2024 International Annual Conference and 45th Annual Meeting, Virginia Beach, VA 2024. [ResearchGate](#)
- Saroj Raut, **F Rabbi**, NUI Hossain*, *AI-Driven Insights: Predicting Systems Engineering Skills with Machine Learning Algorithms*, Conference Proceedings, IISE Annual Conference & Expo, Atlanta, GA 2025. [DOI:10.21872/2025IISE_6590](#)
- **F Rabbi**, S Raut, NUI Hossain*, A Sokolov, *Cardiovascular Risk Prediction through Stacked Boosting Ensemble Algorithms*, (International Conference on Industrial, Manufacturing and Process Engineering (ICIMP) Regina, SK), Eng. Proc. 2024, 76(1), 48. <https://doi.org/10.3390/engproc2024076048>

- A Madamanchi, **F Rabbi***, A Sokolov, NUI Hossain, *A Machine Learning-Based Corrosion Level Prediction in the Oil and Gas Industry*, (International Conference on Industrial, Manufacturing and Process Engineering (ICIMP) Regina, SK) Eng. Proc. 2024, 76(1), 38. <https://doi.org/10.3390/engproc2024076038>
- **F Rabbi**, S Raut, NUI Hossain*, A Sokolov, *Study of Primary Biliary Cirrhosis Prediction Using Machine Learning Algorithms*, American Society for Engineering Management 2024 International Annual Conference and 45th Annual Meeting, Virginia Beach, VA 2024. [ResearchGate](#)
- **F Rabbi**, NUI Hossain*, A Sokolov, *A Machine Learning Ensemble Approach for Sustainable Economic Development*, Conference Proceedings, IISE Annual Conference & Expo, New Orleans, LA 2023. Available on [ResearchGate](#)
- **F Rabbi**, N Sadik, NUI Hossain*, A Sokolov, *Twitter Network Analysis of Industry 5.0 Leveraging Graph Theory Simulation Approach*, Conference Proceedings, IISE Annual Conference & Expo, New Orleans, LA 2023. Available on [ResearchGate](#)
- **F Rabbi**, NUI Hossain*, A Sokolov, J Chidester, *Predicting Maternal Health Risk by Utilizing Different Machine Learning Classifiers*, American Society for Engineering Management 2023 International Annual Conference and 44th Annual Meeting, Denver, CO 2023. Available on [ProQuest](#)
- **F Rabbi**, NUI Hossain*, Omar Ashur, A Sokolov, *Predicting Management Skills of Undergraduate Students by Leveraging Different Machine Learning Classifiers*, Montreal 2023. Available on [ResearchGate](#)

Publication in non peer-reviewed research database

- **F Rabbi**, *Application of process mining algorithms to surgical training: A study of healthcare settings*, Arkansas State University ProQuest Dissertations & Theses, 2024, 31145557. [10.13140/RG.2.2.10331.58401](#)

Presentations

Conference Oral Presentations

- *Detecting Wildfires Using Deep Learning for Sustainable Environmental Management*, Conference Proceedings, Institute of Industrial & System Engineering Annual Conference & Expo, Arlington, TX, May 19th 2026.
- *Study of Primary Biliary Cirrhosis Prediction Using Machine Learning Algorithms*, American Society for Engineering Management 2024 International Annual Conference and 45th Annual Meeting, Virginia Beach, VA, November 7th 2024.
- *Cardiovascular Risk Prediction through Stacked Boosting Ensemble Algorithms*, International Conference on Industrial, Manufacturing and Process Engineering (ICIMP), Regina, SK, June 29th 2024.
- *A Machine Learning-Based Corrosion Level Prediction in the Oil and Gas Industry*, International Conference on Industrial, Manufacturing and Process Engineering (ICIMP), Regina, SK, June 29th 2024.
- *A Machine Learning Ensemble Approach for Sustainable Economic Development*, Conference Proceedings, Institute of Industrial & System Engineering Annual Conference & Expo, New Orleans, LA, May 22nd 2023.
- *Twitter Network Analysis of Industry 5.0 Leveraging Graph Theory Simulation Approach*, Conference Proceedings, Institute of Industrial & System Engineering Annual Conference & Expo, New Orleans, LA, May 23rd 2023.

Poster Presentations

- *Probe Attack Detection Using Machine Learning Classifier*, 2024 Create@State Student Research and Creativity Symposium, Arkansas State University, AR, April 17th 2024.
- *A Machine Learning Ensemble Approach for Sustainable Economic Development*, 2023 Create@State Student Research and Creativity Symposium, Arkansas State University, AR, April 19th 2023.
- *Predicting Maternal Health Risk by Utilizing Different Machine Learning Classifiers*, 2023 Create@State Student Research and Creativity Symposium, Arkansas State University, AR, April 19th 2023.

Technical Reviewer

- **International Journal of Data Science and Analytics** – Reviewed 1 manuscript (Aug 26)
- **BMC Pediatrics** – Reviewed 1 manuscript (July 26)
- **npj Digital Medicine** – Reviewed 1 manuscript (July 26)
- **Humanities and Social Sciences Communications** – Reviewed 2 manuscript (June 26, Aug 26)
- **BMC Medical Informatics and Decision Making** – Reviewed 1 manuscript (June 26)
- **Discover Artificial Intelligence** – Reviewed 1 manuscript (May 26)
- **Discover Computing** – Reviewed 1 manuscript (Apr 26)
- **Discover Applied Sciences** – Reviewed 3 manuscript (Apr 25, Mar-Apr 26)
- **Journal of Ambient Intelligence and Humanized Computing** – Reviewed 1 manuscripts (Feb 26)
- **International Journal of Computational Intelligence Systems** – Reviewed 1 manuscripts (Sep 25)
- **International Journal of Machine Learning and Cybernetics** – Reviewed 2 manuscript (Apr, Sep 25)
- **Scientific Reports** – Reviewed 3 manuscripts (Mar, May 25, Aug 26)
- **Knowledge and Information Systems** – Reviewed 1 manuscript (May 25)
- **Frontiers in Education** – Reviewed 1 manuscript (Apr 25)
- **npj Health Systems** – Reviewed 1 manuscript (Mar 25)
- **The Journal of Supercomputing** – Reviewed 1 manuscript (Mar 25)
- **American Society for Engineering Management 2024 International Annual Conference and 45th Annual Meeting** – Reviewed 2 manuscript (Mar 25)
- **The 15th & 16th Annual Create @ State Symposium, Arkansas State University** – Poster Judge for 12 undergraduate/graduate research posters (Apr 25-26)

Professional Membership

Professional Member, *American Society for Engineering Management (ASEM)*,
Member Id-77883477

2024-Present

Awards and Grants

IISE Annual Conference & Expo Best Paper Award, *May 2026*

A-State Graduate Citizenship Award, *Apr 2025*

A-State Distinguish Graduate Award, *Apr 2025*

A-State Professional Development Award, *Sept 2024*

A-State Travel Assistance Award, *May 2023*

Projects & Technical Reports

- Setting Up Medical Camp utilizing Project Management Principle **Report**
- Digitalization of Impact Testing Machine **Report**

Internship Experience

Maintenance Intern, *Printing Section*
DB-TEX, Mymun Textile Ltd.

November 2018 – January 2019

Industrial Intern, *Combine Cycle PowerPlant*
Bangladesh Power Development Board (BPDB)

September 2018 – November 2018

Certificates

Certificate in **Supply Chain Logistic, Sourcing, Planning, Operation & Strategy**, Rutgers the State of New Jersey, 2020

Technical Skills

Programming Languages	Python, R & R Markdown, L ^A T _E X & T _E X
Libraries	NumPy, Pandas, Matplotlib, Scikit-Learn, TensorFlow, Keras, PyTorch, Pm4py, NetworkX, Snscape, Gurobi Optimization
Tools & Technologies	AutoCAD (2D & 3D), SolidWorks, SigmaPlot, Xflr5

Other Departmental Services

- Supporting ATMAE Accreditation Preparation for the Engineering Management Systems Program.
- Launching Undergraduate Engineering Management Systems & Construction Management Degree Program Modification Proposal.
- Launching Undergraduate Engineering Management Systems & Construction Management Degree Course Modification Proposal.
- Advising Undergraduate & Graduate Students on Academic Pathways & Course Selection.
- Serving as a Judge for Private Student Scholarship Awards, evaluating applications and selecting funding recipients.

Research Interests

Machine Learning,
Process Mining,
Network Theory Analysis,
Deep Learning,
Computer Vision & Image Processing,

Explainable AI,
Environmental Sustainability,
Healthcare Analytics,
Bioinformatics,
Industrial, Manufacturing & Process Engineering