

Nahid Quader

EDUCATION

2013 – 2017 B.Sc. IN COMPUTER SCIENCE AND ENGINEERING

BRAC University
+ CGPA 3.56

2020 – 2023 M.Sc. IN DATA SCIENCE

RWTH Aachen University
+ CGPA 1.8

Thesis: Multi-objective process parameter optimization with Reinforcement Learning

- o Developed a reinforcement learning-based optimization framework for multi-objective manufacturing process optimization.
- o Investigated the use of predictive models as surrogate environment for reinforcement learning-based process optimization.
- o Evaluated optimization strategies for improving process stability and reducing scrap rate.
- o Investigated Pareto-optimal solutions to analyze trade-offs between conflicting objectives and mathematically validated the obtained optimization results.
- o Research outcomes are published in the first paper listed in the Publications section.

SKILL SET

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- Explainable Artificial Intelligence (XAI) and Interpretable ML.
 - Reinforcement Learning, Deep Learning, Predictive Modelling.
 - Proficient in Python, PyTorch, PySpark, Tensorflow, Kubernetes, FastAPI, React, Azure DevOps

WORK EXPERIENCE

ICONPRO GmbH (June 2023 – Current)

DESIGNATION: Machine Learning Engineer (Applied Research & Development)

Research:

- Conduct research on Explainable AI methods for interpreting machine learning models and identifying relationships between process states and influential parameters.
- Investigate reinforcement learning-based optimization approaches for adaptive process parameter control in industrial manufacturing systems.
- Collaborate on interdisciplinary research projects applying machine learning, optimization, and data-driven methods to industrial manufacturing challenges.
- Perform exploratory data analysis and statistical evaluation of industrial datasets to support data-driven modelling and decision-making.

Development:

- Developed data-driven process optimization models to identify optimal process parameters for improving manufacturing quality.
- Implemented and deployed machine learning optimization workflows for industrial process applications.
- Designed distributed data processing and model training pipelines using Apache Spark.
- Developed scalable backend services for ML workflows using microservice architecture.
- Built a user interface with React.js for training, processing, visualization and interaction with ML models.

ICONPRO GmbH (Jan 2020 – May 2023)

DESIGNATION: Student Software Developer (Part time)

Responsibilities:

- Development of machine learning ensemble model.
- Development of a responsive user interface for data visualization.
- Development and design backend services with REST API.

Project: Predictive Quality (AutoML)

- Developed machine learning models to construct AutoML software in backend using python.
- Development of pre-processing, prediction and post-processing pipeline for AutoML.
- Construction of an ensemble by automatic evaluation of multiple models.
- Feature importance implementation for trained model using the postprocessing pipeline.
- Developed a responsive user interface using React js.
- Cloud deployment with CI/CD pipeline.

MEGHNA GROUP OF INDUSTRIES (Oct 2017 – Sep 2019)

DESIGNATION: Executive Engineer

- Led IoT projects and built a scalable IoT platform with a live dashboard for tracking and monitoring a vehicle fleet of more than 2,000 trucks.

PUBLICATIONS

1. [**Reinforcement Learning Agent for Multi-Objective Online Process Parameter Optimization for Manufacturing Process**](#) (Master Thesis)
Applied Sciences (MDPI), 15(13), 7279, 2025 · <https://doi.org/10.3390/app15137279>
2. [**A Machine Learning Approach to Predict Movie Box-Office Success**](#) (BSc Thesis)
IEEE ICCIT 2017 · <https://doi.org/10.1109/ICCITECHN.2017.8281839>
3. [**Performance Evaluation of Seven Machine Learning Classification Techniques for Movie Box-Office Prediction**](#) (BSc Thesis)
IEEE EICT 2017 · <https://doi.org/10.1109/EICT.2017.8275242>