

ZOBAYER HASAN

INDUSTRIAL & PRODUCTION ENGINEER

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📍 Sarutia, Kotchandpur, Jhenidah



PROFESSIONAL SUMMARY

Dynamic and self-motivated Industrial & Production Engineer with an academic foundation in operations research, supply chain management, industrial and project management, product design and development, and manufacturing processes. Experienced in applying machine learning, simulation, and optimization techniques to enhance production efficiency and supply chain performance. Completed internship at Walton Hi-Tech Industries PLC and industrial training at BITAC, contributing to process analysis and operational improvements. Demonstrates strong leadership, analytical, and teamwork skills, committed to delivering effective, data-driven solutions to complex industrial challenges.

EDUCATIONAL BACKGROUND

B.Sc. in Industrial & Production Engineering (IPE)

Shahjalal University of Science and Technology, Sylhet (SUST)

2020-2025

CGPA: 3.45 / 4.00 (Up to 7th semester; final result pending)

Relevant Courses: Operations Research & Management, Supply Chain Management, Industrial Management, Project Management, Product Design & Development, Manufacturing Processes, Circuit Analysis, Instrumentation

Higher Secondary Certificate (Science)

Dr. Abdur Razzak Municipal College, Jashore

GPA: 5.00 / 5.00

Passing Year: 2019

Activities: Science Olympiad, Project Fair, Literature competition.

EXPERIENCE

Intern Engineer

Walton Hi-Tech Industries PLC, Gazipur

May 4, 2025 – May 31, 2025

- Analyzed and documented compressor production processes including crankshaft machining, piston assembly, rotor-stator integration, leak testing, and nitrogen charging.
- Assisted in optimizing on the refrigerator assembly line including thermoforming, gasket forming, door assembly, brazing, foaming, vacuum testing, and final inspection.
- Gained practical exposure to extrusion, injection molding, glass processing, casting, and high-precision CNC machining.
- Conducted technical observations, collected process data, and contributed to process improvement analysis.

Industrial Trainee

Bangladesh Industrial Technical Assistance Centre (BITAC), Dhaka

December 1, 2023 – December 14, 2023

- Participated in hands-on training across conventional and non-conventional manufacturing processes.
- Observed and analyzed CNC machining, metalworking, and tool fabrication techniques.
- Gained insights into industrial management systems and production planning methods.

PROJECTS

Machine Learning-Based Worker Efficiency Prediction and Task Optimization

- Developed ML models to predict worker efficiency using factors such as skill level, experience, age, BMI, and gender.
- Optimized task assignments based on predicted efficiencies to improve productivity and balance workloads.

Line Balancing & Process Optimization in Refrigerator Assembly Line

Walton Hi-Tech Industries PLC

May 2025

- Conducted time study and analyzed **cycle time** and **SAM** data to identify bottlenecks, imbalance, and inefficiencies in the refrigerator assembly line; proposed task redistribution and sequence optimization to reduce idle time and align with **takt time**.
- Applied **lean manufacturing** and **5S principles** to improve workplace organization and process flow; gained hands-on experience in **line balancing**, process analysis, and large-scale production system optimization.

Bottleneck Analysis and Scheduling Optimization - Premium Fish and Agro Ind. Ltd.

October 2023

- Conducted detailed **bottleneck analysis** to identify causes of production delays; applied **scheduling techniques** to optimize workflow and reduce idle time.
- Proposed **data-driven solutions** to enhance productivity, maximize resource utilization, and improve overall production efficiency.

Effective Forecasting and Judgmental Adjustments Evaluation and Strategies for Improvement in Supply Chain Planning

- Evaluated forecasting methods and judgmental adjustments in demand planning to identify accuracy gaps and areas for improvement.
- Proposed strategic, data-driven approaches to optimize inventory levels, reduce stockouts, and enhance overall supply chain decision-making.

Traffic Optimization Using Arena Simulation - *SUST Simulation Project*

- Simulated a 4-way junction in Sylhet city using Arena Software, revealing 50–60% reduced waiting time by implementing lane discipline.
- Proposed lane restructuring to cut idle time, fuel use, and emissions.

Biogas to Electricity Generation in Bangladesh

Conducted an in-depth study on the evolution, current practices, and technologies of biogas, with a focus on its potential for sustainable electricity generation.

DOI: [10.13140/RG.2.2.31759.36002/1](https://doi.org/10.13140/RG.2.2.31759.36002/1)

September 2023

Object Detection Safety System for Hazardous Industrial Machinery

- Developed an Arduino-based system with ultrasonic sensors to provide real-time light and sound safety alerts near hazardous machinery.
- Created an effective alternative to traditional safety signs to enhance workplace accident prevention.

TRAINING AND CERTIFICATION

Certified in Data Science with Python

Shahjalal University of Science and Technology (SUST)

Dec 2024 – Feb 2025

Successfully completed under the EDGE Project (BCC, ICT Division), featuring regular classes, mentorship, and sessions conducted by industry experts.

Skills: Python (NumPy, Pandas), Data Cleaning, Data Visualization (Matplotlib, Seaborn), Basic ML (scikit-learn)

Certificate No.: EDGE-DSTS-117-2616-00015

GitHub Portfolio: github.com/mzhzobayerhasan

- **Capstone Project: *Machine Learning-Based Prediction of Energy Consumption and Traffic Density***

Developed predictive models using Python to analyze real-world datasets and forecast traffic density and energy usage.

GitHub Repository: [DSP-01-Final-Project](#)

Lean Six Sigma White Belt Certification

The Council for Six Sigma Certification | Issued April 2025

Credential ID: QcsPRM3Gek

Skills: Lean Six Sigma, Collaborative Problem Solving

LEADERSHIP AND VOLUNTEER EXPERIENCE

Planning and Development Coordinator

SKH Foundation

- Supported integrated social action and economic development initiatives as part of a voluntary social service organization.

Executive Member

Student Welfare Association of Sarutia

- Engaged in blood donation drives, tree planting, academic awards, and supporting underprivileged students.

Volunteer

Flood Aid Program

- Assisted in providing relief and support to flood-affected communities.

Organizer

Winter Clothing Distribution Program

- Coordinated the collection and distribution of warm clothing to those in need during winter.

PROFESSIONAL SKILLS

Technical Skills

- **Programming & Analytics:** Python, C, Machine Learning
- **Simulation & Modeling:** Arena Simulation, AutoCAD (2D/3D), SolidWorks, MATLAB
- **Process & Project Tools:** Microsoft Excel, Word, PowerPoint, Production Scheduling, SPC

Soft Skills

- Leadership & Teamwork
- Time Management & Strategic Planning
- Critical Thinking & Decision-Making
- Communication & Conflict Resolution
- Adaptability & Attention to Detail

INTERESTS & HOBBIES

Puzzle Solving, Traveling, Reading, Islamic History, Community Service and Volunteering, Photography

REFERENCES

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