HERO BALA

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Skills: Advanced Excel, Power Query, Pivot Tables, Dashboards, Python, Pandas, NumPy, Seaborn, Matplotlib, Plotly, Power BI, Market Analysis, Automation Scripting, Data Cleaning, MySQL, PostgreSQL, Complex Querying, Data Modeling, Scikit-learn, Model Evaluation, UI-UX Design, PowerPoint, Git, GitHub, Jira

Experiences

MENDELU, Master's Student – Open Informatics (Feb 2023 – Present)

- Applied **data analysis and modeling techniques** to optimize systems, gaining transferable skills for hardware R&D (performance measurement, reporting, compliance).
- Collaborated with multidisciplinary teams on projects involving system optimization and automation.
- Strengthened ability to **document findings, interpret data, and communicate technical insights** clearly.

North Western University – Adjunct Lecturer (Feb 2022 – Jul 2022)

- Taught undergraduate electronics courses with practical lab sessions, emphasizing **circuit analysis and debugging techniques**.
- Created lab assignments and maintained academic reports, ensuring **accuracy in documentation and evaluations**.
- Mentored students in **circuit-based projects**, improving their hardware troubleshooting and problem-solving skills.

AMC Knit Composite Ltd., Dhaka – Maintenance Performance Analyst (Jan 2021 – Dec 2021)

- Conducted **hardware inspections** and documented system anomalies for preventive maintenance.
- Worked closely with engineers to diagnose issues, providing **structured reports and root cause analyses**.
- Developed **Excel-based reporting tools** that improved system monitoring and performance evaluation.

Top Recent Projects:

Name	Description	Technologies Used
Smart Fire Alarm Prototype	Designed and prototyped a microcontroller-based fire alarm system integrating temperature and smoke sensors for early hazard detection.	Microcontrollers (Arduino/PIC), Sensors, Embedded C
Low-Power Analog Circuit Design	Developed and tested low-power analog circuits suitable for continuous sensor operation in safety systems.	Analog Circuits, Op-Amps, Simulation Tools
DC–DC Converter for Embedded Devices	Built and simulated a DC–DC buck converter to supply stable voltage for embedded boards in fire detection hardware.	Power Electronics, MATLAB/Simulink, PCB Design
StitchWatch – Maintenance Monitoring System	Created a tool for tracking equipment faults and preventive maintenance, supporting reliability in industrial environments.	TypeScript, JavaScript, Data Logging
Automation Scripts for Engineering Data Processing	Automated data collection, file handling, and reporting processes to improve efficiency in engineering workflows.	Python, Pandas, OS Module