



MAYANK DINESH MEHTA

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ABOUT ME

Instrumentation & Control Engineer with 2.5+ years of experience at Reliance Industries Limited (RIL) in industrial and production environments. Experienced in DCS, PLC programming, instrumentation systems, operations & maintenance, and project execution. Proficient in SAP, advanced Excel, and technical presentations, with strong troubleshooting and problem-solving skills. Currently seeking a design-focused role to apply my technical expertise in instrumentation and control systems.

WORK EXPERIENCE

RELIANCE INDUSTRIES LIMITED (A Fortune 500 Company) – Jamnagar, India

Website: www.ril.com | Name of unit or department: Instrumentation - Business or sector: Manufacturing

Instrumentation And Control Engineer

[04/08/2022 – 28/10/2024]

- Instrumentation & Control Engineer with 2.5+ years of experience at Reliance Industries Limited (RIL), specializing in Gas Turbine Compressors, Gas Metering Systems, and instrument calibration.
- Skilled in troubleshooting, maintenance, reliability improvement, shutdown activities, and working with DCS/PLC systems, analyzers, Fire & Gas systems, and process safety practices.
- Proficient in SAP and material management, with strong problem-solving, communication, and cross-functional collaboration skills.

Larsen & Toubro - MHI Power Boilers – Surat, India

Website: <https://www.lntmhipower.com/> | Name of unit or department: Automation/Electrical - Business or sector: Manufacturing

INTERN

[17/01/2022 – 17/05/2022]

- Completed industrial training with hands-on exposure to PLCs, transmitters, and process instrumentation, enhancing both theoretical and practical knowledge.
- Developed strong problem-solving, task management, and time management skills while gaining insight into industrial operations and best practices.
- Successfully executed a project on "Furnace Thermal Expansion Monitor (FTEM)" for monitoring and analysis of furnace thermal expansion.

EDUCATION AND TRAINING

Masters of Engineering (M.E.) in Automation and IT

Technische Hochschule Köln [10/10/2025 – Current]

City: Gummersbach | Country: Germany | Field(s) of study: Engineering, manufacturing and construction

Bachelor of Engineering (B.E.) IN INSTRUMENTATION & CONTROL ENGINEERING

Sarvajanic College of Engineering and Technology [07/2018 – 05/2022]

City: Surat | Country: India | Website: www.gtu.ac.in | Field(s) of study: Instrumentation | Final grade: 8.91 CGPA

PROJECTS

[04/2026 – 08/2026]

Non-Intrusive Load Monitoring System on Siemens PAC4200 (NILM)

- Developed a **NILM system** using **Siemens PAC4200** to identify individual appliances from aggregate power data.
- Built a **12-feature Random Forest** classifier achieving **100% accuracy (29/29)** on single-appliance classification.
- Implemented **multi-appliance disaggregation and site calibration**, accurately identifying **7 devices in real time**.
- Developed a **real-time dashboard** using **Python, Flask, Node-RED, and Modbus TCP**; co-authored an **IEEE-format paper** and was part of the team that achieved **2nd place** in a departmental lab challenge.

[10/04/2026 – 20/07/2026]

Live Load-Forecasting Challenge 2026

- Achieved **2nd place as "Team NEURA"** in the TH Köln Live Load-Forecasting Challenge by developing a **24-hour ahead electricity load forecasting model** for Germany (DE-LU).
- Built and evaluated forecasting models using historical electricity-load data, achieving **1,408 MW MAE over 41 days** against the ENTSO-E benchmark.

Link: <https://bartzbeielstein.github.io/challenge-leaderboard/>

[03/2026 – 04/2026]

WATER TANK LEVEL, PRESSURE & TEMPERATURE MONITORING USING TIA PORTAL

- Designed and implemented a PLC-based water tank monitoring system using Siemens TIA Portal and S7-1200 PLC simulation.
- Developed ladder logic for monitoring and controlling water level, pressure, and temperature parameters.
- Integrated Node-RED for real-time data acquisition and communication with the PLC.
- Configured InfluxDB for time-series data storage and historical data logging.
- Created Grafana dashboards for real-time visualization and trend analysis of process variables.
- Implemented Industrial IoT architecture to enable efficient monitoring, data management, and process visibility.
- Validated system performance through simulation and testing to ensure reliable operation and data accuracy.

[11/2025 – 01/2026]

Hybrid Wind Power Forecasting Using Digital Twin and Machine Learning

- Developed a hybrid wind power forecasting model combining a physics-based digital twin with machine learning for improved prediction accuracy and grid stability.
- Implemented wind speed extrapolation, air density correction, and turbine power curve modeling to simulate wind turbine behavior.
- Trained a Random Forest model to learn residual errors and enhance forecasting performance.
- Built the forecasting framework in Python and evaluated model performance using MAE and uncertainty analysis.
- Achieved approximately 35% reduction in forecasting error and 51% reduction in forecast uncertainty compared to the physics-based model.
- Demonstrated the potential for reduced reserve requirements, improved balancing efficiency, and lower grid operating costs.

PUBLICATIONS

[2025]

Sensor Fusion Techniques in Autonomous Systems: A Review of Methods and Applications

Authors: Mayank Dinesh Mehta | **Journal Name:** INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING AND TECHNOLOGY | **Volume, Issue and Pages:** Volume: 12 Issue: 04 | Apr 2025 ; ARTICLE NUMBER - 288 | **Publisher:** IRJET

[2025]

Cognitive Robotics in Smart Manufacturing: A Review of AI Applications and Prospects

Authors: Mayank Dinesh Mehta | **Journal Name:** INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING AND TECHNOLOGY | **Volume, Issue and Pages:** Volume: 12 Issue: 04 | Apr 2025 ; ARTICLE NUMBER - 94 | **Publisher:** IRJET

Cognitive Robotics in Smart Manufacturing: A Review of AI Applications and Prospects

SKILLS

Programming Skills

Matlab/Simulink / Python Language - Basic knowledge / Wonderware InTouch / SAP R3 and ISU-Utilities / MS Office (MS Word MS PowerPoint MS Excel MS Publisher MS Outlook) / CORAL DRAW

Machine Learning & Deep Learning

Torch, Keras, Tensorflow, Matplotlib, Numpy, Scikit-learn / Random Forests / Long Short Term Memory (LSTM)

PLC & Industrial Automation

SQL / Siemens TiaPortal / Simantics SCL / Ladder Logics

IOT & Embedded Systems

▪ Arduino & Raspberry Pi / Mqtt Protocol / NODE red

LANGUAGE SKILLS

Other language(s):

German

LISTENING A2 READING A2 WRITING A2

SPOKEN PRODUCTION A2 SPOKEN INTERACTION A2

English

LISTENING C1 READING C1 WRITING B2

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

CERTIFICATIONS

"Project Management Skills for Leaders"

Python for Beginners

"Data Science & Analytics using Python"



23/06/2026

MAYANK DINESH
MEHTA