

DHRUV JAISWAL

Intelligent Systems Product Engineer

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SUMMARY

Product-focused engineer combining embedded systems, edge machine learning, and systems engineering to build intelligent physical products. 6+ production IoT systems deployed across industrial environments. Currently at Carnegie Mellon's Integrated Innovation Institute, focused on TinyML deployment and safety-critical robotics. Seeking Summer 2026 internship in robotics product engineering or AI-physical systems.

TECHNICAL SKILLS

Robotics & Embedded: ESP32/ESP8266, Arduino, Raspberry Pi, RTOS; MQTT, MODBUS, CAN, LIN, I2C, SPI, UART, BLE, LoRa, GSM; Proteus, EasyEDA, 3D Printing.

Machine Learning: TinyML, Model Optimization, Edge Inference; Python, C/C++, MicroPython, MATLAB/Simulink; Jupyter, SQL, Power BI, Tableau.

Product & Systems: SolidWorks, Creo, Ansys Workbench; Integrated Product Development (IPD), Rapid Prototyping; MERN stack.

EXPERIENCE

Graduate Teaching Assistant — Carnegie Mellon University (Aug 2025 – Present)

Mentor 10+ undergraduates in embedded systems design; guide teams through the product development lifecycle from ideation to deployment.

Embedded & IoT Research Intern — Rashail Techlabs Pvt. Ltd. (Sep 2022 – Jan 2024)

Architected 6+ production-grade IoT systems (100% uptime, 10–20 devices each); ESP32 NFC attendance (~80% manual logging), IoT battery monitoring (prevented 5+ critical failures), RFID programmer with cloud sync; integrated MQTT/MODBUS/GSM; built ESP32-CAM surveillance for 3 client facilities.

Embedded Intern (R&D; + Client Demo) — Dot Box Conception (Lootel Cafe) (Aug 2022)

Prototyped IR occupancy counter for smart-restroom analytics (90% accuracy pilot); sensor R&D; across PIR, AQI, fire, temp/humidity; demoed to 150+ clients at Franchise India 2022.

Electronics & IoT Trainee / Assistant Trainer — Platforuma (Jun 2022 – Aug 2022)

Trained 30+ professionals in embedded programming and PCB design; 85% completion rate.

KEY PROJECTS

Facial Recognition RFID Attendance: ESP32-CAM facial recognition + RFID auth, video over MQTT, fire-and-forget backend logging.

Greenhouse Environmental Monitoring: ESP32 + MODBUS/GSM sensor-actuator loops, MQTT closed-loop climate control, long-term logging.

PTRC (concept): Portable Peltier refrigeration with ESP32 + GPS/GSM for location-aware battery optimization and cold-chain monitoring.

EDUCATION

M.S. Integrated Innovation for Products & Services — Carnegie Mellon University (Aug 2025 – Dec 2026)

B.Tech. Electrical & Electronics Engineering — Medi-Caps University, Indore, GPA 7.71/10 (Dec 2020 – May 2024)