Imran Nasir

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Guildford, Surrey, UK | nasir.imrun10@gmail.com | +44 07825247693 | imrun10 | imrun10

Skills

Programming: Python, MATLAB, C++, Javascript/Typescript, SQL/KQL, Java, Groovy.
Embedded Systems: HIL testing, automotive toolchains (Vector, dSPACE), Simulink, Arduino/Raspberry Pi.

DevOps & Tooling: CI/CD, Jenkins, Git, SVN, Azure, Bash.
Frameworks & Libs: Express, Next.js, React, Flask, Pandas.

Experience

McLaren Automotive Ltd, Graduate Intern — Woking, UK — Jul 2024 – Jun 2025

- Built scalable backend infrastructure to suppourt the migration of legacy data using **Express.js, TypeScript, SQL Server**, and integrated with a **Next.js** frontend for real-time visualization.
- Developed MATLAB and Python solutions to streamline testing workflows. Automated **Simulink model validation**, reducing manual effort and review time. Created Python scripts to address **Git/SVN sync issues** across 20+ repositories and manage test case breakdowns for requirements.
- **Administered** user access and role-based permissions for **Jenkins, RhodeCode, and Artifactory**, and **resolved Jenkins-to-Azure SQL data transfer issues**, restoring Power BI reporting and enabling clearer visibility into key test reports.

American University of Bahrain — Riffa, Bahrain — Sep 2023 – Jun 2024

- **Web Developer, D-Lab** *Jan 2024 – Jun 2024*
  - Developed and deployed a full-stack e-commerce platform using Next.js, Supabase, and Three.js to streamline access to 3D printing lab services.
  - Enabled real-time 3D model previews for users, improving submission accuracy and enhancing the overall user experience.
- **Teaching Assistant** *Sep 2023 – Jun 2024*
  - Designed and taught lab sessions for **Introduction to Machine Learning and Data Analytics** (CMPE 390) in Fall 2023 and **Principles of Electrical Engineering** (ELEC 204) in Spring 2024.

Algorithmics Manama, Program Instructor — Manama, Bahrain — Dec 2023 – Apr 2024

- Taught programming fundamentals to students aged 10–16 using Python, C++ (via Unity), and visual programming tools like Scratch.

Projects

Jenkins Integration for ECU Validation Pipeline

- Developed and integrated **Gradle and Groovy scripts** into an existing Jenkins automation pipeline for automotive **ECU testing**.
- Connected Jenkins with test rigs (Vector CANoe, CANape, dSPACE ControlDesk) and configured **automated result storage** in Artifactory.

MATLAB Automation Toolkit for Simulink Validation

- Developed a **custom MATLAB toolbox** to automate **unit testing**, including **test harness configuration**, model scanning, and test sequence generation.
- Reduced **manual test effort by 80%** via boundary and **E2E protection** testing; cut review times by **40%**.

Smart Wireless Sensor for Machine Health Monitoring

- Designed and implemented a **MEMS-based ESP32** sensor system to **monitor gearbox vibrations**, using real-time **TSA/FFT** processing for early fault detection.
- Built a **React**-based UI, integrated a **Supabase** cloud SQL database, and streamlined **time-series analysis** via **MATLAB API**.

Farz: Machine Learning Trash Sorting Bin

- Built an **automated trash classifier** using **OpenCV** and a camera module with **98% model accuracy**.
- **Integrated Raspberry Pi and Arduino** with a motor and multiplexer system; won "**Best Product of the Year**" in a startup competition.

Education

BS **American University of Bahrain**, Computer Engineering — Sep 2020 – Jun 2024
AUBH Active Citizen | Dean's List 2021-2023 | Founder and President of the Sustainability Club.