Huzaifa Irfan

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EXPERIENCE

Robotics, IOT and Automation Engineer (Freelance/Developer) — Sept 2023 – Present
Multiple Companies — *Remote*
- Wooden Stairs Computer Aided Manufacturing App - QT Based Desktop App, Drawings (DXF/PDF), Cut Lists (PDF) , and CNC CAM (G-Code)
- LangGraph GPT RAG AgentBot Integration with Chatwoot
- Setting Up a Production Continuous Deployment Pipeline with Github Actions and AWS

Embedded Engineer (CTO) — Sept 2021 – Sept 2023
InLights Solutions (PVT) LTD — *Islamabad, PK*
- Leading Technical Team including Web, Electrical, Embedded, Transportation, and Machine Learning Engineers. Providing Automated applications to the industry using Computer Vision and Embedded Solutions
- Engineered, Developed, and Tested an Intelligent Traffic Signals System as a Proof of Concept in Islamabad, Pakistan
- Developed Traffic Signal Control Backend System with ROS2, YOLOv8, Modbus

Mechanical Maintenance Engineer (Intern) — Jul 2022– Aug 2022
Pak Arab Refinery LTD — *Muzaffargarh, PK*
- Familiarized with the operational methodologies of various departments and refinery units by API Standards, including SAP, material management, maintenance planning, and work order placement
- Learned about planning and execution of maintenance activities, encompassing administration, work permits, standard operating procedures (SOPs), inspection reports, and non-destructive testing (NDT) protocols

Web Developer (Intern) — June 2020 – Sept 2020
Ideafist (Pvt.) Ltd. — *Remote*
- Developed a Video-Feed App for Egerin - Django and Selenium App that scrape video details from Social Websites and displays them in categories on the front end, with admin panel.

PROJECTS

Washing Machine with Mobile App | *ESP8266, C++, Flutter* — Nov 2023 – Nov 2023
- Replaced Faulty Electronic Circuit with newly developed Circuit
- Remote Control Using Android App

Dimensional Inspection Machine | *RPI Camera. PyQT, OpenCV. CAD* — May 2022 – June 2023
- Developed an automated dimensional inspection machine for manufactured parts. This machine acquires images and analyzes them in real-time using a computer vision algorithm, according to predetermined dimensional tolerances

Heat Exchanger Sensors Reader | *Arduino, Python, pySerialTransfer* — Apr 2023 – May 2023
- Live Shell and Tube Heat Exchanger Temperature, Pressure, and Flow Readings Monitoring
- Save Real Time Sensor Data in csv file for further analysis or graph plotting

Courier Tracking Scraper APIs | *FastAPI, Selenium, Docker, WordPress Plugin* — Aug 2021 – Jul 2022
- Selenium-Based Scraper with Captcha Solver API and WordPress Plugin for Couriers

ACHIEVEMENTS

Gold Medal - NUST High Achiever Awards 2022 | — May 2023
- Secured 2nd position in an international event FICS, for a project of Automated Traffic Lights POC in Islamabad

EDUCATION

National University of Sciences and Technology — Islamabad, PK
Bachelor of Engineering in Mechanical Engineering — *2019 – 2023*

TECHNICAL SKILLS

Languages: Python, C/C++, JavaScript/Typescript, Rust
Frameworks: Django, Flask, FastAPI
Databases: PostgreSQL, MongoDB
Cloud and DevOps: AWS, GCP, Docker, GitHub Actions
Embedded: ESP32, STM32, Arduino, Raspberry PI
CAD: Blender, FreeCAD, EasyEDA, Proteus

September 2, 2025