SEIF EDDINE JOUL

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Summary

A versatile Mechatronics Engineer, skilled in Instrumentation, System integration, and Embedded/ Robotic Systems. Well versed in Simulation and CAD software such as SolidWorks and MATLAB. Educated in Agile methodologies and committed to Safety and Quality in every role and environment I join. I pride myself in being a natural Team Player and Solo Achiever. I am flexible, willing to relocate & work onsite.

Education

Universiti Sains Malaysia – Penang, Malaysia Feb 2020 - Nov 2024
Bachelor of Engineering in Mechatronics Engineering (Hons)
Notable Courses: Robotics and Automation, Instrumentation, Machine Vision, Mechatronics Design
Al Nahda National School – Abu Dhabi, UAE Jan 2016 - Jun 2019
American Curriculum High School Diploma – Science / Business / Sociology

Experience

Electric Technician, Self-Employed– Morocco Mar 2025 – Present

- Calculated load, material cost and quantity for electric power circuits in residential expansion and renovation project, designed the circuit and its path, for a safe and discrete installation
- Increased safety and troubleshooting ease by fitting cables thought conduits into the junctions' boxes and terminations specified, maintaining color coding, cable size and grounding practices
- Maintained transparent communication, regular updates, and before/after approvals that strengthened customer trust and satisfaction

Junior Commissioning Engineer, Hitronik – Penang, Malaysia Aug 2023 – Oct 2023

- Restored a CNC lathe machine by diagnosing & fixing electronic faults and recalibrating motion settings. Bringing it back to full operation within one week
- Designed and built custom circuit boards and microcontroller logic for Solar powered LED systems as per client specifications, with on-site installation and water/heat proofing
- Commissioned an automatic/remote-controlled solar energy pump system, that monitors and regulates irrigation, using custom fabricated parts & repurposed components for sustainability

Deputy President, USM International student society – Penang, Malaysia Feb 2023 – Apr 2025

- Led my team with direct guidance from our director, to plan and execute several large-scale multicultural initiatives that consistently advancing the society's vision and purpose
- Introduced an energetic, collaborative, and results-driven approach during my tenure, establishing new partnerships with campus societies and departments
- Significantly increased our organizations outreach and visibility via increased social media interactive presence, targeted marketing methods and focusing on rebuilding a widespread reliable reputation

Skills & Certificates

Engineering/Fabrication: Mechanical Coupling & Assembly, Soldering, Pneumatic Systems, Instrumentation, Robotics & Automation, Sensors and Actuators, Embedded Systems, PCB Design, Electrical Wiring, Switchgears Power Distribution, Microcontrollers, Motor Control

Engineering software: Python, PLC Ladder Logic, OpenCV, YOLO v4, Visual Studio, C++, SolidWorks, AutoCAD, MATLAB & Simulink, OrCAD PSpice, CX Programmer, Schematics Design

Quality & Continuous Improvement: Statistical Process Control, FMEA, Root Cause Analysis, DMAIC (Six Sigma), Pareto Analysis, Minitab, Technical Documentation

Professional Development: Problem Solving, Critical Thinking, Customer Service, Microsoft Project, Power BI, Microsoft Office Suite, English (C1), Troubleshooting

Certificates: ICDL, IELTS, AI Prompting, Project Management, Time Management, IT Service desk, Communication

Projects

Autonomous Systems & Computer Vision

- **LiDAR-Camera Sensor Fusion:** Developed a MATLAB program using YOLOv4 and extrinsic calibration to achieve pixel alignment for enhanced 3D pointcloud-on-image scene interpretation, object detection and depth estimation.
- **Coin Classification:** Built a Python-based OpenCV system using contour analysis and reference calibration to achieve 95% coin classification accuracy and <mm measurement precision.

Robotics & Mechatronics

- **4-DOF Robotic Arm:** Engineered a servo-actuated 3D printed arm by implementing forward/inverse kinematics, achieving real-time control with ±2 mm placement accuracy.
- **Search & Rescue Walking Robot:** Designed a modular, 3D-printed legged chassis with integrated ultrasonic/IR sensor fusion for autonomous navigation in obstructed, low-light environments.
- **Vacuum Pick-and-Place Station:** Assembled a PLC-controlled pneumatic system using custom ladder logic and motion interlocking to achieve high-speed, repeatable component handling.

Energy & Control Systems

- **Regenerative Braking for Robot:** Designed a kinetic energy recovery system that reduced power loss by 25% through calibrated sensor-triggered braking and battery recharge logic.
- **Automatic Plant Care System:** Developed an auto-care unit using Arduino, with various sensors actuators to monitor and control environmental factors to improve plant longevity

Systems Optimization & Analysis

- **Drone Delivery Optimization:** Conducted advanced statistical analysis using DoE and ANOVA in Minitab and Excel to model performance relationships and predict efficiency trends/equations.