Ibrahim Ahmed Saleh Abdulqawi

MECHATRONICS & ROBOTICS ENGINEER | AI & AUTOMATION SPECIALIST

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Portfolio

ibrahim-abdulqawi-portfolio.netlify.app

Professional Summary

Highly motivated Mechatronics & Robotics Engineer (GPA 4.0/4.0, First-Class Honors) with hands-on experience in AI-driven automation, robotics, computer vision, and embedded systems. Skilled in designing intelligent machines, developing automated control systems, and deploying IoT/AI solutions using Python, OpenCV, Raspberry Pi, Arduino, ROS2, and machine learning techniques. Contributor to a patent-submitted security system and author of a scientific paper in robotics and computer vision. Currently seeking opportunities in Robotics, AI, Automation, Control Systems, and Embedded Development.

Experience

Robotics & Automation Trainee - Robotics & Automation Bootcamp   **2023**
- Developed and tested robotic control systems using Arduino and Raspberry Pi.
- Integrated sensors, actuators, and real-time computer vision for automation tasks.
- Implemented image-processing algorithms in Python and OpenCV for object detection.
- Modeled robotic components and assemblies using SolidWorks.

Embedded Systems & IoT Developer (Training) - AI, Computer Vision & IoT Projects Program   **2023**
- Designed IoT-based systems and communication protocols (MQTT, REST APIs).
- Developed AI-driven vision systems for smart object detection and tracking.
- Programmed Raspberry Pi as central controller for data acquisition and automation.

Technical Intern - Control Systems & Steam Power Station - Technical Power Training Program **2023**
- Assisted in troubleshooting PLC systems and control loops for steam-power operations.
- Interpreted electrical schematics and supported sensor-actuator integrations.
- Prepared system diagnostics reports and suggested process improvements.

Entrepreneurship Trainee — Start Your Business (SYB)   **2024**
- Learned business modeling, strategic planning, and market analysis.
- Converted technical concepts into product propositions and prepared prototype pitches.

Education

B.Sc. Mechatronics Engineering, University of Science & Technology — Aden, Yemen **2024**

GPA: 4.0/4.0, First-Class Honors

Relevant coursework: Robotics, Control Systems, Embedded Systems, AI

Technical Skills

- **Programming:** Python, C++, Java, JavaScript, MATLAB
- **AI & Computer Vision:** OpenCV, YOLO, TensorFlow, Machine Learning.
- **Data Analysis**: NumPy, Pandas, Matplotlib, Seaborn.
- **Embedded & IoT:** Raspberry Pi, Arduino, Sensors, MQTT, REST APIs.
- **Web Development:** Flask, Django, Node.js, React, HTML, CSS, PostgreSQL, SQLite.
- **Desktop GUI:** PySide6, KivyMD, Tkinter.
- **Tools:** Git/GitHub, Docker (basic), Linux, SolidWorks, ROS2.
- **Domains:** Control Systems, Robotics Design, Predictive Modeling.

Selected Projects

Gold Store Safety System (Patent Contribution)
Python | Raspberry Pi | Load Cells | PySide6

- Engineered a real-time security system for gold stores using load-cell sensors to detect unauthorized removal of items.

- Programmed a Raspberry Pi controller to monitor weight variations and trigger instant alerts for discrepancies.

- Designed a desktop monitoring interface with PySide6 for live visualiza on and data tracking.

- Contributed as the lead developer to a project that was submitted for patent registration for its innovative real-time monitoring system

Smart Attendance System (AI-Based)
Python | OpenCV | Flask | KivyMD.

- Implemented facial-recognition attendance system, improving accuracy to 99% and reducing manual time by 80%.

- Integrated REST APIs for data synchronization and designed a user interface for administrators.

Color-Based Sorting Robot — Final Year Project
OpenCV | Raspberry Pi | Arduino | SolidWorks.

- Designed and developed a conveyor-based sorting system using real-time color detection and actuator control.

- Authored a scientific paper project published in the University magazine.

Courses & Certifications

- AI For Everyone — Coursera (2025)
- Data Science & Machine Learning — Udemy (2025)
- ROS2 Udemy — (2025)
- Web Development — Udemy (2024)
- Python Development — Udemy (2023)
- ICDL Certificate (2021)
- English Language Diploma (2018–2019)

Languages

- Arabic: Native
- English: Professional Working Proficiency