

Omar Alzubaidi

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Professional Profile

Experienced in meeting deadlines and perfect in managing team schedules. Encourages others through clear leadership and self-confidence. Committed to delivering quality production in team projects. Proficient in programming, circuit design, robotics, and signal processing from Coventry University. Faithful to lifelong learning and professional development.

Skills

- Problem solving / Good in finding solutions, complexity analysis and implementing innovative solutions in the field of engineering. Also, proficient in addressing technical issues quickly, thinking strategically and adapting to different situations.
- Communication and team skills / Driven by communication and team skills; work well with different categories of stakeholders to articulate ideas clearly while setting a cohesive structure for achieving goals in engineering projects.
- Accurate in work and careful in detail.
- Outstanding time management - well manage time and employ time management abilities like planning, organizing, setting priorities, and managing stress.
- Highly specialized abilities at conducting research and data collecting with the use of different approaches to organize and process information.

Software's and languages programming

- **MATLAB, Simulink** – Implemented throughout university modulus to design circuits, and complete assignments.
- **MS Word, Excel, and PowerPoint** – Analyzed within key university projects, data analysis and presentations.
- **Python, C#, C, C++** – Certificated online training and evidenced in university module projects.
- **VHDL (VHSIC Hardware Description Language)** – Throughout university module design field programming gates arrays and complex electronic circuits.
- **ROS (robotics operating system)** – Through programming Baxter robot arm for complicated tasks and personal project.
- **Multisim and LTspice (circuit simulation software)** – Throughout university modules such as electrical, control system and advanced electronic.
- **Proteus** – Throughout university modules for embedded microprocess and electrical engineering for designing complex circuits and PCB.
- **Arduino** – Employed personal projects to program microcontrollers for robots and test servo motors to control the positions of the objects.
- **Solids work** – Designed a fully specified, functional cannon model using SolidWorks with teamwork.
- **PLC Programming** – Solid foundation in PLC programming, includes crafting simple control sequences using ladder logic, enabling me to effectively troubleshoot and understand automation workflows.

Interests

- Kick boxing (University of Sunderland team).
- Muay Thai (8 Limbs Muay Thai Martial Arts Academy).
- Reading articles on Robotics and AI.

Education

2023–2024 Coventry University, MSc Eng (Hons) Electronic and Electrical engineering

- Relevant modules: Digital Communication Systems, Digital Signal and Image Processing, Alternative Energy and Smart Grid, FPGA-Based Digital System Design, Robotics - Kinematics, Dynamics and Application, Electrical Machines and Drives, Power system, Advanced Control Engineering, and Instrumentation.
- Individual project on programming Baxter Robot arm (Embedded system and Robotics): Programmed Baxter Robot arm using ROS (Robot Operating System) and Python, regarding embedded system integration with robotics applications. Adopted control algorithms and motion planning techniques to allow for accurate manipulation of the environment.

2019–2022 Coventry University, BEng (Hons) Electronic and Electrical engineering

- Relevant modules: Embedded Microprocessors, Analogue and Digital Electronics, Control and Instrumentation, Electrical engineering, Advanced Electronics, Power system, Advanced digital system.
- Individual project on the LLC converter half-bridge (Renewable energy): Developed and simulated an LLC converter Half-Bridge topology in LTspice for renewable energy applications by making complex circuits open-loop and closed-loop. Carried out analysis of efficiency and optimization of the converter operation for different loads. Performance evaluation and optimization of the converter under load conditions.

2018–2019 University of Sunderland, International Foundation Year Program engineering

- Relevant modules: Physics, science skills and Mathematics.

Courses Certificates

- MATLAB machine learning at MATLAB academy MathWorks.
- MATLAB computer vision at MATLAB academy MathWorks.
- Robotics and AI at Great Learning Academy.
- PLC Ladder logic at LinkedIn.
- Speaker diarization: A journey from unsupervised to supervised approaches at Udemy.
- Speaker Recognition | By Award Winning Textbook Author at Udemy.
- Learn Siemens TIA Portal, S7-1200 PLC & WinCC HMI by Scratch at Udemy.
- Artificial Intelligence A-Z and LLM at Udemy.
- Machine Learning A-Z: AI, Python at Udemy.

Professional Employment Experience

06/2024 Artificial Intelligence Engineer at Aljazeera channel (Internship in Qatar for 3 month)

- OCR Data Extraction from Business Cards (Java): Developed a business card data extraction tool using Tesseract OCR and deep learning models.
- Deep Fake & Live Cam AI Projects: Implemented deepfake technologies using models like Deep Live Cam, incorporating machine learning and computer vision techniques.
- Real-Time Transcription with Speaker Diarization: Built and integrated real-time transcription solutions using Whisper, Vosk, and Faster Whisper models. Developed a system capable of transcribing and diarizing speakers in live audio streams, supporting both Arabic and English languages.
- AI Avatar Video Creation: Created AI-generated avatars in real time by utilizing a variety of models from GitHub repositories. This project explored innovative ways of merging AI with video content creation.
- UI for Data Extraction from Files (Python): Designed and developed a user-friendly interface in Python to simplify data extraction from different file formats. The solution focused on making the process intuitive and efficient, ensuring a smooth experience for users handling complex data.

Additional Employment Experience

03/2021 Line leader at Hello fresh (part-time for 2 years)

- Supervised assembly lines, confirming an 80% efficiency rate and regularly meeting production deadlines, resulting in a 20% increase in production capacity over the past year.
- Allocated tasks to team members, overseeing the clear packaging of 500 units per hour, maintaining a quality control rate of 90%.

04/2023 customer service and product image designer at Dubai Gate supermarket (part-time for 9 months)

- Applied MATLAB and other advanced software to produce eye-catching images that captured people's attention.
- Developed shopping easier by making sure that goods in the shop organized properly.
- Got a chance to flex creative muscles and produce cool pictures for product displays plus advertisements.

University and Personal projects

- **Built a car robot (Personal):**
 - Designed and manufactured a self-driving robotic car having four motors, a servo motor, a camera of an ESP32 type, alongside an ultrasonic sensor and four wheels. The top rate of speed reached by this vehicle is 0.5 meters per second. Integrated-in line tracking feature capacity extended by additional 90% compared to control group, ensuring more precise navigation. A whole system was integrated into one, with perfection in control due to the microcontroller of the type of Arduino Uno R3.
- **Program Baxter arm robot through ROS (University):**
 - The Baxter robot integration occurred with ROS by using Python. The first part had to configure a "ping" message in ROS to check the communication with the robot for this project. Also, the application of these algorithms in ROS such as inverse kinematics, for the purpose of more accurate control and manipulation. Relied upon ROS's inverse kinematics service to uplift the motion planning and the reaction precision.
- **Design LLC converter half-bridge through LTspice (University):**
 - A schematic diagram includes an open-loop and a closed-loop circuit with complex integration designed by using LTspice.
- **Arduino mega through Arduino IDE (Personal):**
 - Developed an Automated Package Counter and Notification System using Arduino Mega. This project integrates a 7-segment display, LCD1602, push button, RGB LED, motion sensor, and buzzer to count and notify when a predefined number of packages are detected. Upon pressing the button, the system starts counting packages detected by the motion sensor. Each detection increments the count displayed on the 7-segment display. When the count reaches five, the system stops counting, triggers a buzzer, changes the LED to green, and displays a notification message on the LCD1602 indicating that the packages are ready for delivery. This project showcases proficiency in microcontroller programming, circuit design, and real-time interaction with multiple hardware components. Also, I used Python with the OpenCV library to detect hand gestures through a webcam. The script checks for specific gestures and sends commands via serial to an Arduino Mega. The Arduino is programmed to turn an LED on or off based on these commands. This allows for interactive LED control using hand gestures, combining Python programming and Arduino hardware operations.
- **AI Virtual Keyboard using OpenCV through python (Personal):**
 - Developed an AI-powered virtual keyboard using OpenCV and Python, which allows users to interact with a computer using hand gestures. The project utilizes computer vision techniques to detect hand positions and gestures, translating them into key presses. This innovative approach to human-computer interaction aims to provide an accessible and efficient input method, particularly useful for those with physical disabilities. The system was designed, implemented, and tested successfully, demonstrating high accuracy and responsiveness.

Coursework's

- Sequential System Design and HDL Modelling (VHDL).
- Amplifier Design and Simulation (Multisim).
- Electrical Circuit Analysis and Transformer Modelling (Multisim).
- Power Electronics System Design / DC-DC Converters (Multisim).
- Applied continuous and discrete time control problems (MATLAB).
- DSP Function Implementation (MATLAB).
- Modelling and analysis of IV/PV characteristics of a solar PV (MATLAB).
- Smart home automation system using microprocessor.
- Design PCB through proteus.

Language

- English – Fluent.
- Arabic – First language.