Muhammad Hazimi Yusri

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Education

University of Southampton
MEng Electrical and Electronics Engineering, First Class Honours *2021–2025*

Kolej MARA Seremban
A Levels, Mathematics, Physics, Chemistry (3 A)* *2020–2021*

Technical Skills

Hardware: Microcontrollers (Raspberry Pi, Arduino, ESP32, AVR), PCB Design, Sensors Integration

Medical Devices: Delsys Trigno EMG Sensors, Piezoresistive Accelerometers, Medical Signal Processing

Technical: Circuit Design, Embedded Systems, Digital/Analog Electronics, Power Systems, Signal Processing

Software: MATLAB, C/C++, Python, Circuit Simulation, CAD Tools, Onshape 3D Design

Development: VSCode, DevContainers, Git, GitLab, modern embedded development workflows

Tools: Oscilloscope, Function Generator, Multimeter, Soldering, 3D Printing, PCB Fabrication

Electronics Engineering Experience

ELEC6203 Microsensors
Interface Circuit Design for Medical Accelerometer *Dec 2024*
- Designed complete interface circuit for MS3028 piezoresistive accelerometer
- Implemented differential and instrumentation amplifier configurations (>10MΩ input impedance)
- Created cascaded Butterworth active filters achieving 20-170 Hz bandwidth with -40 dB/decade roll-off
- Reduced power consumption by 56.4% via system-wide voltage reduction from 5V to 3.3V

ELEC6227 Medical Electronics
EMG Signal Processing for Robotic Control *Nov 2024*
- Integrated Delsys Trigno EMG sensors for robotic hand control system
- Designed signal conditioning circuits for medical-grade sensor interfaces
- Implemented digital signal processing for feature extraction and pattern recognition

University of Southampton
Research Assistant *June–Aug 2024*
- Developed acoustic evaluation methods using MATLAB for room impulse response measurements
- Implemented signal processing techniques for acoustic parameters analysis
- Contributed to hardware-software integration for 360° image processing systems

Hardware Project
SlimeVR - IMU-based Tracking System *May–Sep 2023*
- Integrated 7 BMI160 sensors with Wemos D1 Mini for motion tracking
- Applied embedded C programming for real-time sensor data processing

Electronics Project
FPV Drone Build *June 2023–Present*
- Built and configured AOS 5 FPV drone with F722 Flight Controller
- Integrated DJI O3 air unit with TBS M8.2 GPS module
- Performed ESC calibration and PID tuning for stable flight

Development Environment

Modern Tools: VSCode for embedded development, DevContainers for consistent toolchains

Version Control: Git workflows for hardware projects and documentation

Additional Projects

PetBot Robot: Designed 3D chassis and servo control systems for social robotics - Demo Video

Stereo Camera: Hardware interface for Raspberry Pi 5 dual-camera system - individual 3rd year project

Smart Home: Integrated Raspberry Pi IR Camera with IoT sensors for automation

Additional Information

Work Rights: Full UK work rights (Graduate visa valid until 2027)

Availability: Immediate

Location: Based in Southampton, willing to relocate