Abdul Shahzeb

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Mechatronics Engineer / Computer Scientist, UNSW

- Bachelor of Mechatronics Engineering (Honours) and Computer Science
- Academic Achievement Scholarship | Distinction Average WAM

Experience

Research Assistant — Australian Centre for Robotics (USYD)   *April 2024 - Present*

- Developed and deployed wearable IoT devices for real-time biometric and environmental monitoring to enhance safety for the NSW Rural Fire Service (RFS).
- Designed a common operating picture to track RFS personnel and vehicle locations, with integrated danger alerts and warnings, in order to improve operational efficiency and situational awareness in high-risk environments.
- Integrated hardware, networking, and software components using Python, JavaScript, and ROS for field-ready deployment.
- Reference available upon request.

Mechatronics Intern — Contactile   *May 2025 - July 2025*

- Developed ROS 2 software for autonomous operation of a robot arm and robotics gripper for a pick-and-place project.
- Implemented real-time computer vision modules in ROS 2 for object detection and localisation.
- Designed and tested a sensor-based gripping system to achieve precise and repeatable pickups and placements.
- Reference available upon request.

Mechatronics Intern — Australian Centre for Robotics (USYD)   *Feb 2024 - April 2024*

- Led R&D efforts for the *Wearables* initiative, surpassing objectives by integrating biometric and environmental monitoring, fall detection, and long-range communications.
- Developed a real-time data visualisation dashboard using JavaScript, Python, HTML, and ROS.
- Demonstrated versatility and expertise in hardware development through CAD and electrical assembly, contributing to the seamless integration of innovative technology within the project framework.

Education

University of New South Wales (UNSW)   *2020 - 2025*

- Bachelor of Mechatronics Engineering (Hons) / Computer Science

High School   *2019*

- Dux of School 2019

Technical Skills

- Programming: C, C++, Python, Java, JavaScript
- Robotics: ROS, ROS 2, MoveIt, Gazebo
- Software Engineering: OOP, Data Structures, Algorithms, Refactoring
- Hardware Design: CAD (SolidWorks), Soldering, Circuit Design
- Other: Embedded Systems, Computer Vision, IoT Development