

ISHA PAREKH

ishaparekh235@gmail.com | 0498 589 250 | linkedin.com/in/isha-parekh-k235

Internship Availability: February 2027 | Part-time | Sydney

PROFILE

- Penultimate-year Mechanical Engineering (Honours) / Computer Science student combining mechanical design, manufacture, controls and physical-system testing with telemetry, cloud infrastructure and data systems; keen to apply this multidisciplinary skill set to energy infrastructure and grid modernisation.
- Experienced analysing engineering data, developing dashboards, coordinating requirements across technical stakeholders and delivering documented project work from design and implementation through testing, debugging and iteration.

EDUCATION

UNSW Sydney

Bachelor of Mechanical Engineering (Honours) / Bachelor of Computer Science

Expected Dec 2027

WAM: 70+

Relevant study: Mechanical Design & Manufacturing, Thermodynamics, Fluid Mechanics, Linear Systems & Control, Numerical Methods & Statistics, Software Engineering, Databases.

EXPERIENCE

Vehicle Analytics Contributor

UNSW Redback Racing

Sep 2025 – Present

Sydney, NSW

- Optimise AWS telemetry infrastructure across EC2, Lambda, API Gateway, DynamoDB and Cognito using AWS CDK, contributing to an approximately 90% reduction in recurring cloud costs while improving maintainability of vehicle data systems.
- Develop TypeScript/Next.js analytics and car-setup workflows that turn live and historical sensor data into engineering insights; coordinate requirements, testing and issue resolution across software and vehicle engineering subteams.

CSE Technical Contributor

UNSW Rocketry

Jan 2025 – Present

Sydney, NSW

- Develop software for an active-control rocket, applying feedback control and Kalman-filter state estimation to flight-computer and sensor data for real-time flight-state estimation and stabilisation; test and debug telemetry and data logging.
- Designed, manufactured and assembled a Level 1 rocket using CAD, 3D printing and laser cutting; integrated mechanical components, sensors and flight electronics, validating fit and software-hardware interfaces through testing.

Full Stack Developer – Medical Data Platform

Children's Cancer Institute / UNSW

Aug 2025 – Dec 2025

Sydney, NSW

- Built a React/MySQL research platform with dashboard, database and structured-data workflows, translating complex medical information into accessible functionality for project stakeholders.
- Converted stakeholder feedback from weekly reviews into tested features, iterating on usability, data accuracy, access control and reliability while contributing to technical documentation and final project delivery.

SELECTED MECHANICAL ENGINEERING PROJECTS

Alpha Stirling Engine Design & Manufacture

UNSW Mechanical Engineering

- Designed, manufactured and assembled a functional Alpha Stirling engine, resolving crank geometry, tolerances, alignment, friction, heat transfer, material selection and DFM constraints through CAD, drawings and physical testing.
- Supported project execution through task coordination, compliance checks, design reviews, manufacturing planning and technical documentation, iterating the design from concept development through final assembly.

Gearbox Design & Manufacture

UNSW Mechanical Engineering

- Designed and manufactured a gearbox across gears, shafts, bearings and housing geometry, applying gear-ratio selection, load transfer, tolerance, alignment and design-for-manufacture principles.
- Produced CAD models and technical drawings, assembled manufactured components and validated fit and mechanical function, refining the design around workshop, manufacturing and assembly constraints.

TECHNICAL & PROJECT SKILLS

Mechanical: CAD, engineering drawings, DFM/DFA, tolerances, 3D printing, laser cutting, prototyping, assembly, testing.

Project / Analysis: Project planning, requirements interpretation, stakeholder communication, issue tracking, technical documentation, data analysis, dashboards, process improvement.

Software / Data: Python, TypeScript/Javascript, C/C++, SQL, React, Next.js, REST APIs, MySQL, PostgreSQL, Git, Jest, MATLAB.

Cloud / AI: AWS EC2, Lambda, API Gateway, DynamoDB, Cognito, CDK; AI-assisted research, coding and documentation workflows; AWS Certified Cloud Practitioner – in progress.