

JOSHUA WALL

Mechanical Engineering Technician | CAD Draftsperson | Maintenance & Project Support

Warabrook, NSW 2304 | 0488 160 610 | josh.wall97@gmail.com | Portfolio: joshwall.io

PROFESSIONAL PROFILE

Recently qualified with an MEM50222 Diploma of Engineering – Technical (Mechanical), currently studying an MEM60122 Advanced Diploma. This is supported by 24 courses of undergraduate mechatronics and software engineering study at the University of Newcastle. Complementary engineering study strengthens problem-solving across mechanical, automated and computer-controlled equipment.

Placed fourth at the Warman Design and Build International Final, leading the mechanical design for the UoN team.

Combines industrial workshop and safety-equipment servicing experience with formal training in CAD, mechanical design, maintenance strategy and project coordination. Practical background spans fabrication support, technical stores, equipment calibration and customer service.

CORE TECHNICAL CAPABILITIES

CAD & technical drafting: Autodesk Inventor, Fusion 360 and AutoCAD; 2D/3D solid and surface modelling; component and assembly modelling; AS 1100 drawings; dimensioning and tolerancing; parts lists and BOM interpretation.

Mechanical design & analysis: Concept development; engineering mechanics; statics; force, moment and beam calculations; simple stress analysis; fluid mechanics; materials selection; process planning; design for manufacture.

Maintenance & reliability: Proactive, preventive and predictive maintenance; RCM, TPM, FMECA; maintenance scheduling; failure and downtime analysis; CMMS concepts; maintenance cost estimation.

Projects, operations & safety: Project scoping; work breakdown structures; Gantt scheduling; risk assessment and WHS compliance; inventory and stores control; production support; customer and service coordination.

Testing & mechatronics: Functional testing; inspection and calibration; 3D printing and rapid prototyping; microcontroller programming; sensors and control fundamentals; MATLAB, C and Microsoft Excel.

SELECTED ENGINEERING PROJECT

Warman Design and Build Competition - University of Newcastle

2023

Mechanical Design & Prototyping Lead | Fourth Place, International Final

- Led the mechanical and hardware design of the team's autonomous competition machine, translating the design brief and constraints into an integrated, build-ready concept.
- Created component and assembly models in Fusion 360, resolving fits, interfaces, tolerances and manufacturability before fabrication.
- 3D-printed the components, assembled and adjusted the machine, then ran test cycles to validate its performance against the competition scoring criteria.
- Supported concept selection, risk assessment, manufacturing planning and prototype validation.

PROFESSIONAL EXPERIENCE

Baldwin Industrial Systems Pty Ltd - Cardiff, NSW

July 2025 - Present

Workshop Assistant / Stores Person

Manufacturer of oil-water separators, dissolved air flotation units and oil skimmers for industrial wastewater treatment.

- Interpret engineering drawings and bills of materials to identify, manufacture, pick and kit components.
- Assist tradespeople with the fabrication and functional testing of industrial wastewater treatment systems.
- Process parts, materials, and consumables through receipt, specification checks, identification, storage, issue and replenishment; maintaining orderly stock locations to support workshop schedules.
- Operate a forklift for materials handling and coordinate the packing and dispatch of completed systems, spare parts, and consumables in accordance with WHS procedures & company policy.

Newcastle Safety Servicing - Cameron Park, NSW

Jun 2021 - Aug 2022

Service Assistant

Servicing and certification provider for gas detection, breathing apparatus, confined-space and working-at-heights equipment.

- Serviced, calibrated, inspected and repaired customer equipment in the workshop and on client sites, working to manufacturer instructions, Australian Standards and statutory requirements.
- Managed service jobs in SM8 from receipt and assessment through quote coordination, completion, certification documentation and dispatch, attaching test certificates and inspection reports to each job record.
- Maintained the calibration, service and inspection status of workshop equipment and replenished service vehicles and consumable stock before field runs.
- Liaised with customers, the Office Administrator and Operations Manager to clarify requirements, support quotations and organise upcoming work.

Earlier Experience – Hospitality & Customer Service

Calais Estate Winery – Pokolbin, NSW - Cellar Door Sales

Aug 2019 – Jul 2020

Sprout Catering – Tocal, NSW - Bar & Beverage Staff

Jul 2018 – May 2019

The Verandah Restaurant – Pokolbin, NSW - Bar & Beverage Staff

Jan 2017 – Jul 2018

Customer-facing roles covering product education, point-of-sales and cash handling, order packing and dispatch, and coordinated teamwork under time pressure.

EDUCATION & ACADEMIC ACHIEVEMENTS

TAFE NSW - Tighes Hill, Newcastle, NSW

MEM60122 Advanced Diploma of Engineering (Mechanical) - In progress

AVI30419 Certificate III in Aviation (Remote Pilot) - In progress

MEM50222 Diploma of Engineering - Technical (Mechanical) – Completed

February 2026

University of Newcastle - Callaghan, NSW

Diploma in Engineering (Exit award) | Study completed, pending award

Undergraduate studies in Mechatronics Engineering (2016-2017 and 2021-2023) and Software Engineering (2018).

Selected results: Sustainable Engineering Practice (HD, 97); Engineering Complexity (HD, 92); Object-Oriented Programming (HD, 87); Engineering Fluid Mechanics (D, 82); Engineering Risk & Uncertainty (D, 82); Mechanical Engineering Design 1 (D, 81).

Award: Hunter Water Undergraduate Scholarship (2016).

Transcripts available on request.

LICENCES & CERTIFICATIONS

Forklift Truck High Risk Work License (LF)

Work Safely at Heights (RIIWHS204D)

Construction Induction White Card

PORTFOLIO CONTENTS

joshwall.io

Warman competition build and demonstration video, assembly and detail drawings (Inventor, AS 1100), Fusion 360 design and 3D-printed prototypes, technical reports, and worked calculation models.

REFERENCES

References available upon request.