VIVEK PANCHAL

Mechanical Engineer

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Auckland, NZ

EDUCATION

University of Auckland | 2025-2026

Masters of Mechanical Engineering (Research)

University of Auckland | 2020-2023

Bachelors of Mechanical Engineering (Hons.)

WORK EXPERIENCE

Smartair Diffusion | Feb 2024 - May 2025

Graduate R&D Engineer

New Product Design: Designed and developed a new HVAC diffuser using Creo, modelling aerodynamic performance using SimScale for CFD analysis. Utilised the CFD data to drive design and improve airflow performance by 20%

Test Plan Creation & Documentation: Created and executed extensive thermal and product reliability test campaigns for 4+ diffusers to model performance against company benchmarks

Rapid Prototyping & Feasibility Research: Conducted market research and technical feasibility studies to assess concept viability. Rapidly developed and iterated promising designs into early stage prototypes using 3D printing

UNIVERSITY PROJECTS

University of Auckland Foiling Yacht Innovation Club | Mar 2021 - Feb 2023

Composites & Design Team Member

High Performance Yacht CAD: Collaborated on the CAD design of a Moth Class racing yacht (see design portfolio)

Composite fabrication: Gained hands-on experience with sanding moulds, carbon laminate hand layups and vacuum debulking

Technical Mentorship & Outreach: Mentored new team members on the design and construction principles of the Moth, developing strong teamwork and communication skills

SKILLS

- CAD: Creo, Inventor, Solidworks, Autodesk PowerMill
- Coding: C, MATLAB, VBA
- Simulation: ANSYS Fluid, ANSYS Mechanical
- Practical: Soldering, Basic manual machining, 3D Printing, Pressure sensors
- Documentation: SOP, Test reports, BOM, Technical Drawing