HARRY BIRD

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EDUCATION

University of New South Wales **Online**

Master of Data Science (with Excellence), Jan 2024 – Oct 2025

University of Canterbury **Christchurch, New Zealand**

Bachelor of Engineering (Honours), Mechanical Engineering, Minor in Aerospace Engineering Feb 2020 – Nov 2023

EXPERIENCE

Full Stack Web Developer (Part Time) **Nov 2023 – Present**

Gabion1 *Wellington, NZ*

- Led digital transformation initiative migrating legacy MS Access database to cloud-native web application using Supabase BaaS platform with PostgreSQL, implementing RESTful APIs and real-time data synchronization
- Engineered responsive eCommerce platform utilizing Nuxt.js with real-time inventory management, enhancing user experience and conversion optimization
- Designed business intelligence dashboards using JavaScript packages and complex SQL queries to provide actionable insights on KPIs, sales analytics, and revenue forecasting

Building Services Engineering Intern **Nov 2022 – Feb 2023**

Aurecon *Christchurch, NZ*

- Collaborated with multidisciplinary teams delivering sustainable HVAC solutions for commercial building projects, conducting energy audits and optimization analysis for high-performance building systems
- Performed thermal modeling and CFD simulations to calculate heat load analysis and optimize HVAC system design for energy efficiency

PROJECTS

Central America Rail Network Feasibility Study | Transportation Engineering & Data Analytics

- Conducted comprehensive feasibility analysis for passenger and freight rail infrastructure development, performing stakeholder analysis, risk assessment, and market evaluation
- Applied quantitative methodologies including financial modeling, Monte Carlo simulations, and sensitivity analysis to evaluate project viability and ROI projections

IoT Weather Monitoring & Data Acquisition System | Full-Stack Development

- Engineered end-to-end IoT solution using Arduino microcontroller and embedded systems programming for real-time environmental data collection
- Deployed self-hosted solution on Linux server using Docker containerization with data visualization dashboard

TECHNICAL SKILLS

Programming: Python, JavaScript, TypeScript, SQL (PostgreSQL), R, MATLAB, Shell Scripting

Web Development: Nuxt.js, Vue.js, SvelteKit, Node.js, RESTful APIs

Data Science & ML: Pandas, NumPy, Scikit-learn, TensorFlow, PyTorch, Statistical Analysis, Predictive Modeling, Feature Engineering, Data Visualization (Matplotlib, Plotly), Jupyter Notebooks

Database & Backend: PostgreSQL, Supabase, Database Design, Query Optimization, Prisma, Data Warehousing

DevOps & Cloud: Docker, Git/GitHub, CI/CD Pipelines, Linux Administration, Cloud Deployment (Vercel, Netlify)

Business Tools: Odoo ERP, Power BI, Tableau, Google Analytics

Engineering Software: FreeCAD, SolidWorks, CFD (ANSYS), FEA, BIM

Languages: English (Native), Spanish (B2)