

JESSE WOOD

Software Engineer



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SUMMARY

PhD candidate and Software Engineer with extensive experience in machine learning, data science, and full-stack web development. Proven ability to lead projects from conception to publication, collaborating with scientists and industry partners to build impactful software solutions. Passionate about leveraging technology to solve complex scientific problems.

TECHNICAL SKILLS

Machine Learning: Python, R, PyTorch, Scikit-learn, Pandas, NumPy, Hugging Face, DEAP

Web & Full-Stack: React, Node.js, Deno, Java, GraphQL, Tailwind CSS, Haskell

Databases & DevOps: PostgreSQL, GeoServer, Supabase, Firebase, AWS, Git, Github, Jira

EXPERIENCE

PhD Researcher & Tutor - *Victoria University of Wellington* 2021 – Present

- Developed novel machine learning models (PyTorch, DEAP) to analyze mass spectrometry data, achieving 98.3% accuracy in fish species classification for an industry partner.
- Published key findings in peer-reviewed journals and conferences (AJCAI 2022).
- Tutored 300-level courses in Machine Learning and Databases; awarded Doctoral Scholarship.

Software Intern - *NiWA* 2020 – 2024

- Built and deployed end-to-end web services using an open-source stack (Linux, Postgres) to serve scientific data via OGC-compliant APIs for the NZODN portal.
- Worked in an Agile team using Git, Jira, and remote collaboration tools to deliver software for a global scientific audience.

Web and Content Intern - *Wellington Chamber of Commerce* 2021

- Developed dynamic web components and data visualizations for the iMIS EMS, automating the digitization of paper-based resources for business members.

EDUCATION

Doctor of Philosophy, Artificial Intelligence - *Victoria University of Wellington* 2022 – Present

- Awarded Wellington Doctoral Scholarship & MBIE Doctoral Grant.

Bachelor of Engineering, Software Engineering - *Victoria University of Wellington* 2016 – 2022

PUBLICATIONS

- Wood, J., et al. (2025). Hook, line, and spectra: machine learning for fish species identification. *Intelligent Marine Technology and Systems*, 3(1).
- Wood, J., et al. (2022). Automated fish classification using unprocessed fatty acid data. *Australasian Joint Conference on AI (AJCAI)*.

References available upon request.