

Ezra Palmers

Machine Learning Engineer and Researcher ■ Data Scientist

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Education

BSc (Hons), Artificial Intelligence

University of Waikato, 2026

BSc, Data Analytics

University of Waikato, 2024–2025

Skills

Mathematics and statistics

Linear algebra, multivariable calculus, probability and stochastic processes, Bayesian methods, statistical tests.

Programming languages

Python, R, SQL, Java (intermediate), C++ (basic), CUDA (basic).

Machine learning

Classical and online learning, validation and metrics, ensembles, unsupervised methods, class imbalance.

Deep learning

Backpropagation and optimisation, transformers and attention, transfer learning, mixed-precision training, quantisation.

GPU and parallel performance

CUDA, CUB, Thrust, OpenCL, kernel profiling and benchmarking.

Research data pipelines

Messy real-world data processing, EEG signal processing, marker repair and labelling, feature engineering, experiment tracking and reproducibility.

AI and agent tooling

Claude Code, Codex, custom skills and multi-step workflows.

Awards

University of Waikato, 2025

- Summer Research Scholarship
- CMS Prize for Excellence
- John Cleary Prize

Summary

I am studying for an honours degree in Artificial Intelligence at the University of Waikato, drawn to machine learning because it combines probability with code and makes a wider range of problems solvable. For my first role, I want hard problems, mentors I can learn from and the chance to solve things that matter. My foundation in mathematics and statistics helps me understand how models learn and what they learn, and gives me intuition for which approaches will suit a problem.

Research and Projects

EEG flow-state research and honours dissertation

2025–2026

University of Waikato, Te Kura Rau Mahara, in progress

- Began as a funded summer research scholarship and continues as my honours dissertation: whether machine learning can predict flow state from EEG recorded during simulated driving, in a multidisciplinary wearables research lab.
- Designed the labelling the study runs on. Participants press a button when they leave flow, and the periods either side of it are labelled flow and non-flow. Earlier work created flow by varying task difficulty, so its labels could not separate the two; mine keep the task the same and never break the flow to ask.
- Built the data processing and machine learning pipeline end to end, from raw 16-channel recordings through marker repair, signal processing and feature extraction to model evaluation.
- Currently rebuilding the software as a reusable platform for future lab studies. I will record the data for an eyes-open/eyes-closed case study and use it to verify the platform end to end.

CTA-level load balancing for segmented scan in CUB

2026

University of Waikato, NVIDIA-mentored, in progress

- Researching CTA-level load balancing for segmented scan in CUB, NVIDIA's open-source CUDA C++ primitives library, with a senior NVIDIA AI DevTech engineer. The project targets two open upstream issues: a benchmark that exposes workload imbalance and a balanced path behind CUB's existing interface.
- Traced the segmented-scan code path end to end, specified candidate designs, and built and locally exercised the benchmark suite; now finalising it for the first upstream pull request.

Local speech-to-text with Whisper and agent tooling

2026

Personal project

- Built a command-line tool that transcribes recordings locally with faster-whisper on an NVIDIA GPU.
- Created Claude and Codex skills for repeatable tasks over the transcripts, such as sourced, timestamped notes.

Experience

Tutor, Statistics and Data Science

2026

University of Waikato

- DATA222 Principles of Probability and Statistics, current: works the weekly problem sheet live in front of a class of 20–30, explains solutions, fields questions and marks assignments.
- DATA201 Practical Data Science: ran weekly computer workshops on R fundamentals, with one-on-one help, quizzes and worksheets.