

Jevi Waugh

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Education

The University of Queensland

Master of Data Science

St Lucia, Brisbane

2026 - Current

The University of Queensland

Bachelor of Computer Science (Machine Learning Major)

St Lucia, Brisbane

2024 - 2025

Semester 2 GPA: 6.5

Professional Experience

The University of Queensland

Research Assistant

School of EECS

March 2026 - Current

- Deriving the Generalised Kaleidoscope transform to use in frequency based autoencoders for segmentation tasks.
- Supporting research to a manuscript targeted for submission in 2026, focusing on frequency-domain methods for computer vision.

The University of Queensland

Summer Research Scholar

School of EECS

Jan–March 2026

- Completed Summer Research Scholarship work that contributed to being offered a separate Research Assistant role
- Designed and implemented a **PsychoNet-based decoder** for medical image segmentation, deriving the **Fourier Shuffle algorithm** for frequency–spatial upsampling.
- Implemented and evaluated the architecture in **PyTorch**, benchmarking it against a **state-of-the-art (SOTA) U-Net model**; achieved a 1.77% improvement in validation performance and a 13.8% reduction in GPU memory usage using custom training scripts on GPU compute nodes. Supervised by Shekhar (Shakes) Chandra and Wendi Ma

The University of Queensland

Casual Academic

School of EECS

July 2025 - Current

- Casual Academic for **COMP4702/7703 (Machine Learning)**, **COMP3400 (Functional and Logic Programming)**, **COMP2048 (Theory of Computing)**, and **CSSE1001 (Introduction to Software Engineering)**.
- Deliver classes, guide students through programming and concepts, and assist with assessment marking and feedback.

UQ Computing Society

Industry Officer

UQ Union

Nov 2025 - Current

- Lead the UQCS sponsorship subcommittee, securing partnerships through industry outreach, pitching, and negotiation.
- Secured over **\$30,000** in sponsorship funding for student initiatives and managing industry partner relationships.
- Increased sponsorship funding by **40% in 2026** while expanding the sponsor base by **30%**.
- Onboarded new industry partners: **Cybermetrix**, **Quantum Australia**, **Atlassian**, **Tanda**, **Citadel**, and **getcracked.io**.

Projects

Vision Transformer Attention Analysis

July – December 2025

- Investigated internal attention dynamics of Vision Transformer (ViT) architectures using pretrained DeiT models.
- Built a pipeline to extract and analyze attention distributions across transformer layers.
- Conducted experiments modifying attention formulations to study behaviour in collaboration with Dr. Kasra Khosoussi.

Fine-tuning FLAN-T5 for Biomedical Lay Summarisation

- Fine-tuned **FLAN-T5** encoder–decoder models on the **BioLaySumm** dataset using mixed-precision training.
- Evaluated model outputs using **ROUGE-1**, **ROUGE-2**, **ROUGE-L**, and **ROUGE-Lsum** metrics.
- Achieved **>70% ROUGE performance** across evaluation metrics on held-out biomedical summarisation tasks.

TraceForest: AI-Generated Code Detection

- Developed an explainable Random Forest classifier achieving **94% accuracy** for detecting AI-generated code using stylometric AST features. Integrated **SHAP-based explainability** to identify feature contributions influencing model predictions.
- Built Python and Java adapters returning classification probabilities for automated pull-request review workflows.
- Extended CodeGPTSensor via encoder fine-tuning with stylometric features, achieving **>95% accuracy**.
- Released a developer tool as a **VS Code extension** with **1.5K+ downloads**. Marketplace link

Technical Skills and Frameworks

Programming Languages: Python, Haskell, C (ANSI C), Java and SQL **Tools:** Git (Github), Linux, Jira

Libraries and Frameworks: PyTorch, Sk-learn, Einops, OpenCV, Pandas, NumPy, Matplotlib, PySpark