BENJAMIN WOO

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TECHNICAL SKILLS

Programming: C++, Go, Python, Javascript, Typescript, Java, Bash scripting
Frontend: React, Next.js, Redux
Backend: REST, Spring Boot, Express.js, FastAPI, Swagger
Database & Data Processing: PostgreSQL, Redis, DynamoDB, Elasticsearch, NiFi, MongoDB, Kafka
DevOps & IaC: Git (GitLab CI/CD), Docker, Kubernetes, Helm, Terraform, Flux CD, Pulumi

EXPERIENCE

Australian Signals Directorate   Jun 2024 – Present
Senior Software Developer   *Canberra, ACT*
- Led backend design and development for a complex collaborative document editing application built with Java Spring Boot, ensuring scalability, reliability, and low-latency performance. The application supports hundreds of daily users within the agency to improve analyst workflows.
- Developed and deployed scalable microservices in Java, Go and Python, for document parsing. This critical initiative cut document processing time by 30% and enabled the daily ingestion thousands of documents across different formats, providing analysts with timely, actionable insights for strategic decision-making.
- Drove the continuous improvement lifecycle by translating customer-facing support tickets into engineering roadmaps and GitLab issues, directly enhancing the end-user experience and product reliability.
- Mentored and educated junior developers on best practices in Java design patterns by conducting weekly one-on-one sessions, organising team-building activities, and engaging in pair programming, resulting in a reduction in onboarding time and improved team productivity.

Machine Learning Engineer   *Mar 2022 – Jun 2024*
- Deployed deep learning models using MLflow as a model registry and MLServer with Kubernetes to ensure scalability and fault tolerance.
- Integrated a proprietary translation model into a computer-assisted translation tool, achieving a BLEU score 25% higher than Meta AI's NLLB-200 transformer model, and enabling automatic translations for linguists and analysts.
- Enhanced search functionalities for linguists by integrating Milvus with semantic search models and Hierarchical Navigable Small Worlds indexing.

The Australian National University   Jul 2025 – Nov 2025
Academic Tutor   *Canberra, ACT*
- COMP1110/1140/6710 - Structured Programming
- COMP2700 - Cyber Security Foundations

EDUCATION

The Australian National University   Dec 2022
Bachelor of Advanced Computing (Honours)   *Canberra, ACT*
- First Class (H1)
- Machine Learning Specialisation

Tsinghua University   Jul 2019 - Dec 2019
Exchange Program   *Beijing, China*

PROJECTS

HiveMind - Deep Learning Four-Player Chess Engine | *PyTorch, TensorRT, FastAPI*   ⊙ ↗
- Published and presented work at the IEEE Conference on Games at Northeastern University, Boston, United States.
- Developed a state of the art doubles Chess engine written in C++ and Python, capable of real-time coordination and complex decision-making.
- Trained a deep learning model on close to a million games using reinforcement learning as a community effort by leveraging cloud compute and sending games to a central FastAPI server.

CERTIFICATIONS

Certified Kubernetes Application Developer (CKAD)   Jun 2025
Cloud Native Computing Foundation (CNCF)   *Canberra, ACT*

Natural Language Processing   Sep 2023
Carnegie Mellon University   *Pittsburgh, PA*