

# Jason Vu

github.com/jasuovu

jasuovu.github.io

## EDUCATION

### University of Technology Sydney

Feb 2025

*Bachelor of Computing Science (Honours), major in Enterprise Systems Development*

- **Awards:** Dean's List (2024), First Class Honours, High Distinction Average (WAM: 85.47)
- **Relevant Coursework:** Data Structures & Algorithms, Software Development, Data Analytics, AI, Networking, Cloud

## EXPERIENCE

### Honours Researcher – Machine Learning & AI

Feb 2024 – Nov 2024

*University of Technology Sydney*

- Contributed to UTS Artificial Intelligence research by developing a transfer learning framework for reinforcement learning (RL), applied to Street Fighter II and Fatal Fury 2
- Achieved a 99/100 thesis mark for optimizing a reinforcement learning algorithm, under the supervision of a Postdoctoral Researcher and was cross-reviewed and validated by the FEIT Director of Education
- Engineered an AI agent from scratch to analyse game strategies, optimizing decision-making processes that attained an 83% win rate over 100 games in Street Fighter II, outperforming baseline models (52%)
- Validated cross-game transfer learning by fine-tuning the agent on Fatal Fury 2, maintaining a 77% win rate, demonstrating retention of learned strategies
- Optimized training over 5 million timesteps using Optuna, reducing convergence times while analysing game similarity and frame-level action spaces
- Utilised Python, Stable-Baselines3 with PyTorch and OpenAI Gym to train and simulate environments locally, scaling computation with cloud GPUs via UTS iHPC (High Performance Computing) on Linux VM for efficient training
- You can access my full thesis paper [here](#)

## PROJECTS

**Personal Website:** <https://jasuovu.github.io> (for more projects and information)

### Clarichat: AI Interview Prep. – Github

- Collaborated in a team of 5 to develop an AI-driven web app in 14 weeks using JavaScript, React, Node.js and Firebase, integrating OpenAI API to simulate interviews with contextual responses to 50+ questions
- Employed Agile methodologies with bi-weekly sprints on Azure Boards, managing code with Git/GitHub, working on individual branches and merging updates to master for seamless integration
- Implemented CI/CD with Azure Pipelines & GitHub Actions, achieving 95%+ pipeline success rate and 100% test coverage through automated testing and deployment
- Utilised Firebase for user authentication, updating of interview questions, responses and history

### Thoughts: Journal App with AI Assistant – Github

- I teamed up with 2 other developers to develop an iOS app of our choice, a journal app for users to record their current thoughts at any time and successfully implemented a conversational AI to ask for life advices
- Nominated for the Software Engineering showcase at UTS TechFest and was invited to the iOS Hackathon
- Utilised Swift, SwiftUI, used the OpenAI API for the chatbot with a “well-being” prompted context

### DrumoCat: MIDI-Integrated Interactive Drum App – Github

- Developed an interactive MIDI-connected virtual drum kit in Processing as a passion project, featuring 12 drum sounds and synced animations
- Implemented recording, quantization (beat snapping), BPM adjustments and playback sequence saving, transforming time-series audio data using timestamps
- Integrated additional tools, including an MP3 player, BPM tapper, metronome, drumbeat visualizer, trimming function
- Utilised Java for audio processing and MIDI integration, with ControlP5 for interactive UI design

### BidGacha! Real-Time Marketplace Web App – Github

- Developing a real-time bidding platform for rare anime figurines, gacha items and TCG (Pokémon, Yu-Gi-Oh!) to explore microservices architecture and scalability in .NET
- Implementing RabbitMQ, gRPC and SignalR for event-driven messaging, communication and real-time bid updates
- Built authentication with Duende IdentityServer and a Next.js (App Router) frontend
- Ensured reliability through unit/integration testing (xUnit) and CI/CD using Docker, Kubernetes and GitHub Actions
- Utilised C#/.NET, PostgreSQL, MongoDB, Node.js, Next.js (TypeScript), Postman (repo may be private)

## TECHNICAL SKILLS

**Languages:** Python, C#, TypeScript, JavaScript, Java, Swift, SQL, HTML/CSS, Bash**Databases:** PostgreSQL, MongoDB, Firebase**Libraries/Frameworks:** .NET, ASP.NET, Entity Framework, React.js, Next.js, Pandas, NumPy, Matplotlib**Developer Tools:** Git, Linux/WSL2, VSCode, Visual Studio, Unity, Node.js, AWS, Azure, Docker, Excel, Microsoft Office