

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 – Reinforcement 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 machine 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 ChatGPT 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 using Azure Pipelines and GitHub Actions, achieving over 95% pipeline success rate and 100% test coverage through automated unit testing and deployment
- Utilised Firebase as the database 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

DrumCat: MIDI-Integrated Interactive Drum App – Github

- Developed an interactive application in Processing, connecting a MIDI e-drum kit to a virtual drum kit with a cat character, featuring 12 drum sounds and animations synced to user inputs as a passion project
- Implemented advanced features such as recording drum inputs, quantization (beat snapping), BPM adjustments, and playback sequence saving, using timestamps to transform audio data
- Integrated additional tools, including an MP3 player, BPM tapper, metronome, drumbeat visualizer, trimming function
- Utilised Java for audio processing, MIDI integration, and ControlP5 for creating interactive and visually engaging UIs

BidGacha! Real-Time Marketplace Web App – Github

- Currently developing a real-time bidding platform for rare anime figurines, gacha items and trading card games (TCG), mainly Pokemon and Yu-Gi-Oh! cards to learn about microservices architecture for scalability in .NET
- Implementing RabbitMQ, gRPC, and SignalR for event-driven messaging, communication, and real-time bid updates
- Integrating Duende IdentityServer for authentication and built the frontend with Next.js (App Router)
- Conducting unit and integration testing using XUnit to ensure system reliability
- Deploying using Docker, Kubernetes and GitHub Actions for cloud deployment and CI/CD
- Technologies: C#/.NET, Postman, PostgreSQL, MongoDB, Next.js + TypeScript, YARP, xUnit (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