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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 deep reinforcement learning (RL), applied to Street Fighter II and Fatal Fury 2
- Achieved a **99/100 thesis mark** for optimizing a RL algorithm, under the supervision of a Postdoctoral Researcher and was cross-reviewed by the FEIT Director of Education
- Engineered an AI agent from scratch, achieving an 83% win rate in Street Fighter II and 77% after transferring knowledge from both Street Fighter II and Fatal Fury 2, demonstrating cross-domain learning retention
- Optimized training over 10+ million timesteps using PPO in a vectorised environment, employing Optuna trials for hyperparameter tuning (e.g., learning rates, n_steps) to improve convergence times
- 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)*

BidGacha! Real-Time Marketplace Web App – Github
- Developing a full-stack 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, ASP.NET, Entity Framework, PostgreSQL, MongoDB, Node.js, Next.js (TypeScript), Postman

Clarichat: AI Interview Prep. – Github
- Collaborated in a team of 5 in an industry-practice studio to develop an AI-driven web app in 14 weeks using JavaScript, React, Node.js and Firebase, integrating OpenAI API to simulate interviews with 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, following SDLC process
- Implemented CI/CD with Azure Pipelines & GitHub Actions, achieving 95%+ pipeline success rate and 100% test coverage through automated testing and deployment

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

EXTRACURRICULAR ACTIVITIES

Kaggle Competition – NBA Rookie Prediction *(Tied 3rd place out of 175 participants)*
- Developed predictive models using Python to predict NBA rookies' longevity, employing Decision Trees, kNN, Random Forest, SVM and Neural Networks on a dataset of 8,000+ records
- Optimized a Neural Network with feature engineering and ensemble methods (SVM, Logistic Regression and AdaBoost), improving predictive accuracy from an AUC of 0.475 to 0.712 (a 50% improvement)
- Ranked in the top 2% of participants, outperforming 98% on the leaderboard

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, PyTorch
Developer Tools: Git, Linux/WSL2, VSCode, Visual Studio, Unity, Node.js, AWS, Docker, Microsoft Office, Excel