Edward Ji

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Skills Summary

- Excel at Python, proficient in C, SQL, Bash, Swift, etc.
- Well-versed in the command line and tools like Git, Docker, GitHub Actions, and Vim.
- Passionate about mathematics and deep learning, proficient in libraries such as PyTorch and Pandas.
- Quick to learn, strong at problem-solving, and effective in communication.

Experiences

Software Developer
Jan 2022 – Present

Hudson Homes

- Programmed automation scripts for updating housing information and generating reports.
- Performed data analysis and processing using Python and various third-party libraries.
- Worked with Microsoft SQL Server to manage and query data.

Casual Academic
Feb 2025 – Present

The University of Sydney

- Designed and delivered Python workshops for 240 students.
- Marked assignments and exams, and conducted code reviews.

iOS Developer Intern
Dec 2023 – Feb 2024

NetEase Youdao

- Collaborated in developing an AI-powered text optimization interface for the Youdao dictionary app, the most downloaded reference app on the App Store in China, using Swift and SwiftUI.
- Contributed to the development of Hi Echo, a virtual speaking coach application, by implementing the weekly learning report interface using UIKit.

Education

The University of Sydney
2021 – 2025

- Honours thesis under the supervision of A/Prof Chang Xu, with a focus on deep learning.
- Bachelor of Advanced Computing, major in computer science.
- Bachelor of Science, mathematical sciences program, major in data science.
- Enrolled in Dalyell Scholars program, recognizing high-achieving students.

Knox Grammar School
2018 – 2020

- Studied Mathematics Extension 2, Physics, and Software Design and Development.
- Scored an ATAR of 98.70 in HSC.

Projects

Predicting Visually-evoked fMRI from Resting-state Scans
Dec 2024 – Present

The University of Sydney

I coauthored a paper that proposes a novel approach for predicting visually-evoked fMRI responses from resting-state scans. I designed and implemented a parallelized neuroimaging data processing pipeline optimized for high-performance computing clusters. I also conducted downstream analysis using advanced deep learning models.

References available upon request.

eyePlay
Mar – May 2024

The University of Sydney

As the data science capstone project, I collaborated with physics students to develop a hands-free media playback system for users with physical impairments. I designed signal processing algorithms that achieved high accuracy in detecting voltage changes from forehead electrodes, enabling users to control playback through blinks and gaze direction.

Cancer Cell Structure Analysis
Jul – Nov 2023

The University of Sydney

As the computer science capstone project, I developed a deep learning pipeline to classify glioblastoma and low-grade glioma from whole-slide histology images, collaborating with fellow computer science and biomedical HDR students. We adopted Extreme Programming methodology, emphasizing rapid sprints, continuous integration, and iterative feedback.

Essentials of Microeconomics
Jul – Nov 2023

I developed a shiny app to interactively demonstrate some ideas in *Essentials of Microeconomics*. I utilized Shiny for Python for interactive visualizations and I used SymPy for symbolic mathematics.

Matcha
Aug 2023

SYNCS Hack

Our team developed a team-matching app using Svelte during a 24-hour hackathon, coming in second place. I led back-end development, building a self-hosted API powered by pre-trained NLP models and a Levenshtein distance algorithm for similarity scoring.

Decision Royale
Aug 2022

SYNCS Hack

Our team built a decision-making web app within 48 hours and won the Best UI/UX and People's Choice. I implemented the front-end logic using JavaScript, collaborated closely with teammates to rapidly prototype and deploy the application.

Crazy Spin
Aug 2021

Our team developed and published a game built with Unity. I gained experience in game development, project management, and team collaboration, overseeing the development process from concept to release. The project won the Junior Undergraduate Project Award at the 2022 Coding Fest.

Honors and Awards

Vacation Research Scholarship
Jul 2024

The University of Sydney

I was awarded a competitive research scholarship as one of 51 students university-wide. I investigated Stellar, a leading decentralized payment network, focusing on the design and security of its consensus protocol.

Undergraduate High Honour Roll
May 2023 – Jun 2024

The University of Sydney School of Computer Science

I excelled in algorithms, systems programming, data science, artificial intelligence, and software engineering, earning high distinctions in core IT subjects. I showcased my proficiency in computational theory, optimization, and machine learning through successful capstone projects.

Academic Merit Award
Aug 2022

The University of Sydney

I was awarded for academic excellence in 2021, achieving an Annual Average Mark of 89.1 while undertaking advanced units. The award recognizes high-achieving undergraduate students, with around 600 recipients annually.

Second Place
Jul 2021

Competitive Coding Challenge, USRC x SYNCS

Our team developed an auction bot capable of bidding in simulated environments and classifying participants based on behavioral patterns. I applied knowledge of communication protocols, hypothesis testing, and algorithm design.