

Barry Tran

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EDUCATION

University of Adelaide

Bachelor of Computer Science (Advanced), GPA: 7.0/7.0

Adelaide, SA

July 2023 – June 2026 (Expected)

EXPERIENCE

MIT Media Lab

Feb. 2024 – Present

Research Intern - Supervisor: PhD. Tobin South

Remote

- Employed AI techniques to develop a comprehensive framework for **benchmarking various backdoor attack methods in diffusion models**, ensuring systematic and reproducible evaluations.
- Implemented multiple **backdoor attack algorithms**, resulting in a performance increase of **30% in attack success rates** across different diffusion model architectures.
- Conducted extensive AI-driven experiments and analyses, quantifying the impact of each technique on **model integrity** and generating detailed **comparative metrics** for accuracy and robustness.

Australian Institute for Machine Learning

Nov. 2023 – Feb. 2024

Research Intern - Supervisor: Dr. Antonios Perperidis

Adelaide, SA

- Led the advancement of an innovative AI model in the research project titled "*Exploring 4D X-ray Velocimetry (XV) Imaging and Machine Learning for the Detection and Monitoring of Cystic Fibrosis Disease in preclinical Data.*" The developed model demonstrated an impressive **89% accuracy** in its results.
- Utilized **Matplotlib**, **NumPy**, and **Scikit-learn** for data visualization and integration of innovative AI solutions
- Employed **classifiers** and **ensemble models**, alongside dimension reduction and features extraction techniques

Budi

Oct. 2023 – Mar. 2024

Fullstack Developer

Adelaide, SA

- Developed a responsive and functional landing page leveraging technologies like **AstroJS**, **React**, and **Tailwind**
- Completed project in **6 days**, demonstrating expertise in efficient development practices
- Expanded the **user database by 20%**, contributing to the overall growth and impact of the startup's online presence

PROJECTS

Doodle Duo Game | C++, SFML, Git, Catch2

Sep. 2023 – Oct. 2023

- Collaborated in a **team of 2** to conceptualize, design, and develop a captivating **2D platformer** game
- Executed flawless coding in **C++** and **SFML**, ensuring smooth player interactions and captivating gameplay
- Achieved a **perfect 100% final mark**, highlighting precision in coding and effective teamwork

Obesity Rate Analysis | BeautifulSoup, Pandas, Numpy, Matplotlib

Aug. 2023 – Sep. 2023

- Explored correlations between fast-food stores, gyms and average obesity rates across **28,000 U.S. cities**
- Used **BeautifulSoup** to collect over **1,200,000 data points** on fast-food stores and gyms for a detailed dataset
- Analyzed with **Numpy** and **Matplotlib**, improving understanding of environmental factors in obesity prevalence

TECHNICAL SKILLS

Languages: Python, C++, JavaScript, HTML/CSS, Assembly, Dart, R, MATLAB

Frameworks: React, AstroJS, NextJS, Django, Flask, Flutter, TailwindCSS

Developer Tools: Git, Docker, Google Cloud Platform, Jupyter Notebook, Linux, AWS

COMMUNITY INVOLVEMENT

Second Year Representative | Adelaide University Mathematics Society

Oct. 2023 – Present

Project Manager | Society of Quantitative Analysis and Data

Feb. 2024 – Present

SET Ambassador | University of Adelaide

Feb. 2024 – Present

Events Officer | Adelaide MedTech Hackathon

Oct. 2023 – Present

HONORS AND AWARDS

Third Prize | Vietnam Mathematical Olympiad

Mar. 2023

Meritorious Prize | International Mathematical Modeling Challenge

May 2022