

Brandon Yuan

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EDUCATION

University of Virginia

Bachelor of Science in Computer Science, **3.77 GPA**

Charlottesville, VA

Aug. 2022 – May 2026

RELEVANT COURSEWORK

Intro to Programming, Data Structures and Algorithms 1 & 2, Computer Systems and Organization 1 & 2, Discrete Mathematics and Theory 1, Linear Algebra, Software Development Essentials, Probability, Multi-variable Calculus, Intro to Cybersecurity, Compilers, Statistics

EXPERIENCE

Teaching Assistant for CSO2

August 2024 - Present

University of Virginia

Charlottesville, VA

- Supported 400+ students by hosting office hours, providing one-on-one help, and clarifying advanced concepts during labs.
- Assisted the professor with grading assignments and exams to ensure consistent feedback.

PROJECTS

TipC Compiler Extension | C++, ANTLR, TIPC, Cmake, Catch2, LLVM

August 2024 - Present

- Expanded a compiler with new features such as boolean types, array types, for loops and other operators.
- Implemented these new features by adding 2000+ lines of C++ and ANTLR code and Catch2 tests.
- Extended each phase of the compiler to fully support the new features.
- Leveraged LLVM bitcode as an intermediate representation to optimize code generation, enabling advanced optimizations and efficient execution of compiled code.

Course Reviews Application | Java, SQLite, CSS, JavaFX, FXML

April - May 2024

- Lead a team of 3 to create a full-stack course reviews application.
- Implemented SQL to query a SQLite database for user authentication to ensure a personalized user experience.
- Used SQLite to efficiently manage and retrieve data.

Snake Game AI | Python, Pygame, Pytorch, Matplotlib, IPython

March 2024

- Implemented a version of the snake game using the Pygame library.
- Developed a reinforcement learning model using Pytorch to train an agent to play the snake game.
- Used Matplotlib and IPython to create a dynamic graph of each iteration of the agent and its score.

Instagram Data Parser | Python, JSON

April 2023

- Parsed through Instagram user follower and following JSON files.
- Extracted user data and cross referenced follower and following data.
- Implemented file reading to develop the data cross reference algorithm.

EXTRACURRICULAR

Taiwanese Student Association Family Head

August 2023 - Present

- Created a strong community for over 300 college students to promote Taiwanese culture and intersectionality.
- Planned and managed social events for the club.
- Organized fundraisers that raised \$2K+ dollars.
- Worked with other clubs, including the Chinese Student Association to host joint events.

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, C/C++, Assembly, HTML, CSS, R, SQL

Frameworks: JUnit, Mockito, Catch2

Developer Tools: Git, VS Code, PyCharm, IntelliJ, RStudio, MatLab, ArcGIS

Libraries: Pygame, Numpy, Pytorch, IPython, Matplotlib