

# Ashley Feng

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## EDUCATION

### University of Texas at Austin

Austin, TX

*BS in Computer Science, Turing Scholars Honors Program*

*August 2024 - May 2027*

**Coursework:** Honors: Computer Architecture, Data Structures, Discrete Math | Linear Algebra, Probability

### Liberal Arts & Science Academy

Austin, TX

*GPA: 4.7 — SAT: 1590*

*August 2020 - May 2024*

**Coursework:** Linear Algebra, Multivariable Calculus, Data Structures, Digital Electronics

## TECHNICAL SKILLS

**Languages:** Java, Python, C/C++, JavaScript, SQLite, x86-64, AArch64, HTML/CSS

**Frameworks:** React, Flask, Django, Catch2, JUnit, Web Assembly

**Tools:** Logisim, Cisco Packet Tracer

## EXPERIENCE

### Undergraduate Research Assistant

Apr 2025 – present

*UT Data Systems Lab*

*Austin, TX*

- Worked on memory management protocols for distributed databases using C++ with a focus on embedded synchronization and concurrency control
- Designed architecture for multi-core systems and optimized performance under concurrent workloads

### Teaching Assistant

Aug 2023 – May 2024

*Liberal Arts & Science Academy*

*Austin, TX*

- Assisted computer science department of 300+ students across 3 courses and programming languages of Java, Python, Verilog, and ARM Assembly
- Graded student labs and organized after school drop-in tutoring

## PROJECTS

### SkinSage | *Python, SQLite, Selenium, NumPy, Matplotlib, Flask*

June 2024

- Mapped 2000+ cosmetic listings webscraped from OliveYoung based on chemical similarities to develop content-based recommender system
- Modeled ingredient lists using word embedding and one-hot encoding to visualize products as 2D vectors using t-SNE dimensional reduction
- Built full-stack web application displaying all product information and computing real-time cosmetic recommendations with cosine similarity

### Gameboy Emulator | *C++, OpenGL, SDL*

Apr 2025

- Implemented fully functional emulator of the Gameboy Original, including CPU with ISA of 500+ instructions, liquid crystal display, pixel processing unit, and memory management unit
- Displayed cycle-accurate graphical output and supported joystick interrupts using OpenGL and SDL libraries
- Supported all memory bank controllers and manual ROM/RAM bank switching to emulate all licensed Gameboy ROMs

### Tsoogle | *Java, Attoparser*

Nov 2024

- Indexed content of over 10,000 web pages using a web crawler extended from attoparser
- Designed full-stack web server displaying relevant page results by tokenizing and converting client-side queries supporting advanced search syntax to parse trees
- Verified reliability by implementing JUnit tests on randomly generated local web directories

## INVOLVEMENT

**Awards:** CyberPatriot Open Division Platinum Semifinalist for Cisco Networking, Groce Family Turing Scholarship in Computer Science

**Organizations:** Distributed Systems Reading Group, Turing Scholars Student Association, Women in Computer Science