

EMILY LIANG

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Education

The University of Texas at Austin

May 2027 (Expected)

B.S. in Mathematics and Computer Science and Minor in Business

Austin, TX

Honors: Turing Scholars Honors Program GPA: 3.77

Relevant Coursework

- Computer Architecture Honors
- Discrete Math Honors
- Software Engineering
- Linear Algebra
- Operating Systems Honors
- Data Structures Honors
- Vector Calculus Honors
- Probability
- Artificial Intelligence
- Differential Equations

Experience

Undergraduate Research Assistant

Jan 2025 – Present

The University of Texas at Austin

Austin, TX

- Assist with ROS and experiments with AugRE(Augmented Robot Environment to Facilitate Human-Robot Teaming).
- Standardized data collection procedures, ensuring consistent data formatting, and accelerated experimental analysis by 15% through enhanced data usability.

First-Year Trading and Technology Program (FTTP)

March 2025

Jane Street

New York City, NY

- Selected as one of the 100 students from US/Canada to gain knowledge of trading technologies at Jane Street, completing 10+ practical exercises focused on real-world trading scenarios and placing 2nd in the Estimathon.

Software Engineering Intern

Sep. 2023 – May 2024

Lockheed Martin Aeronautics

Fort Worth, TX

- Developed a version compatibility lookup tool, reducing software mismatch by 70% and streamlining coordination.
- Collaborated the Air Force Research Laboratory, L3 Harris, and Raytheon on research efforts.

Technology Project Manager

Sep. 2023 – Sep. 2024

Keller Independent School District

Keller, TX

- Led a team of 10 to support district-wide technology deployment for 35,000 students and 4,000 faculty members.
- Delivered training to 100+ educators on EdTech platforms, reducing software onboarding issues by 50% and ensuring seamless technology adoption across 40+ campuses.

Projects

JPEB: 16-Bit Computer | *Rust, Haskell, C, Verilog, Python, Assembly*

April 2025

- Collaborated in a team of four to design and implement a custom 16-bit computer from scratch, including a custom ISA inspired by Dr. Bruce Jacob's RiSC-16.
- Developed a 6-stage pipelined processor, deployed it on an FPGA, and extended an existing compiler and assembler to support game development.
- Implemented the Chrome Dinosaur and Snake games using the custom 16-bit ISA; integrated graphics rendering into the emulator, increasing test coverage and validation efficiency by 40%.

Vision Guardian | *Python, OpenCV, MediaPipe, TensorFlow*

July 2023

- Built a video-based glaucoma and cataract detection system using OpenCV, MediaPipe, and TensorFlow; achieved 95% classification accuracy on a 500+ image dataset, enabling early diagnosis for underserved populations.
- Selected as a Finalist out of 20 teams in the MIT FutureMakers and SureStart Create-a-thon for innovation in accessible healthcare technology.

Technical Skills / Additional Information

Languages: Java, Python, C/C++, HTML/CSS, Verilog, x86 & ARM Assembly, LaTeX

Developer Tools: Git, Docker, Android Studio, Jupyter Notebook, Google Colab, VS Code, PyCharm, IntelliJ

Libraries: pandas, NumPy, Matplotlib, Scikit-Learn, TensorFlow, Keras

Interests: Rock Climbing, Photography, Hiking, Scrambling

Leadership / Extracurricular

Longhorn Racing Internal Combustion

Fall 2024 – Present

Simulation and Validation

The University of Texas at Austin

- Collaborated on LapSim (vehicular simulation) to drive 10+ engineering design choices.
- Built an automated graph generation tool, decreasing the time spent on creating visualizations by 60% and enabling faster identification of key trends from collected datasets.