Ethan Chen

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EDUCATION

Virginia Polytechnic Institute of Technology   **Blacksburg**
Bachelor of Science in Computer Engineering   **Expected Graduation: May 2028**
Relevant coursework: [Circuits and Devices, Digital Systems, Computational Engineering]
GPA: 3.2

EXPERIENCE

Undergraduate Research Assistant, Department of Engineering Education   **Fall 2025 - Present**
Electrical and Computer Engineer for LEWAS Lab

- Collaborated with an interdisciplinary team on software and environmental fieldwork for the LEWAS research group.
- Build and maintain lewas.vercel.app and a companion wiki integrating chatbot outputs and sensor data; contribute C++ as needed and document data flows. GitHub contributions: ethanchenz
- Support sensor data collection and basic analysis to ensure accurate environmental datasets.
- Ran weekly tests at the on-campus site to gather information from the LEWAS "Live Creek Data" Dashboard

Design Team: Virginia Tech Baja SAE
Testing Team Member

- Prototyped fluid-control testing setups using Arduino and Raspberry Pi; researched sensor types and evaluated them on the team car.
- Assisted with sensor integration and data checks to inform vehicle testing decisions.
- Participated in a team environment with weekly reports

BawsHuman   **Summer 2025**
IOS/Software Intern

- Contributed to a production fitness app alongside senior engineers, practiced standups and code reviews in a professional workflow.
- Applied Java, C++, and IOS development fundamentals to implement small features and fix issues within a supervised codebase.

PROJECTS

LED Controller   **Spring 2025**

- Designed and built an Arduino-based LED controller circuit on a breadboard that used a potentiometer to alternate LED colors
- Programmed the microcontroller to generate smooth, low-latency color transitions, creating a responsive, real-time lighting effect

Simple Computer (CPU) Design   **Fall 2025**

- Built an assembly program on a custom 16-bit Simple Computer ISA to evaluate 4 transportation options (Car/Plane/Train/Bus) using pointer-based memory reads and sequential traversal
- Designed and integrated a Verilog-based Simple Computer CPU (datapath + control) to execute the full instruction cycle.
- Computes route metrics and a combined score (TRS): For each travel option, it extracts/stores time, cost, emissions, comfort, and stops into data memory, then calculates $TRS = T + (C \times 4) + E - (CS \times 2) + S$ and stores it.

AWARDS, CERTIFICATIONS, & SKILLS

Languages

- Java | Python | C++ | Verilog/VHDL | Assembly

Hardware & CAD | Embedded & Digital

- **Microcontrollers:** Arduino | Raspberry Pi | SOLIDWORKS

Tools & Platforms

- **Linux (Ubuntu)** | Git/GitHub | VS Code | Xcode | MATLAB | Bash/Zsh
- IOS development (Swift/SwiftUI, intern experience)

Certifications

- U.S. Congress Volunteer Award | Gold President's Volunteer Service Award