ALEX LI

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RELEVANT SKILLS

- **Programming Languages:** Python, C/C++, Assembly, SQL, Java, JavaScript, Verilog, HTML/CSS
- **Frameworks/Libraries:** Flask, Pytest, Express, Node, React.js, Next.js, PyTorch, NumPy, Matplotlib, pandas
- **Technologies:** Linux, Git, Make, SQLite, MariaDB, FPGAs, ModelSim/GTKWave, Google Cloud Platform
- Writing descriptive, industry-level documentation, developing full-stack applications using iterative design principles, and collaborating in fast-paced environments under strict time constraints.

EDUCATION

University of Washington, Seattle, Washington — Expected June 2027
B.S., Computer Science — GPA: 3.7

Relevant Coursework: Discrete Mathematics, Software Design and Implementation, Linear Algebra, Data Structures and Parallelism, Hardware/Software Interface, Mathematical Methods for Quantitative Finance, Systems Programming, Digital Circuit Design, Machine Learning, Distributed Systems (Spring 2025), Data Management (Spring 2025)
Awards/Achievements: Best use of AI + Best Finance/Data Analytics Project at HackTech 2025, **1st Place** (Synergy Track) at DubHacks 2023, Dean's List (Academic year 2023-24)

RELEVANT EXPERIENCE

Chewy, Inc. — June 2025—August 2025
Software Engineering Intern

- Incoming Software Engineering Intern

UW Sensor Systems Lab | *FPGAs, Verilog, GTKWave, Python* — December 2024—Present
Undergraduate Research Assistant

- Develop low-level software to interface with FPGAs, optimizing hardware communication protocols for acoustic levitation systems.
- Write code to serialize and de-serialize phase angle data, synchronizing **100+** transducers for precise object control in acoustic levitation systems.
- Migrate critical transmission protocols from I2C to UART, improving data throughput, reducing latency, and enhancing signal reliability between devices.

George Mason University | *PyTorch, NumPy, Matplotlib, pandas* — July 2022—August 2022
Deep Learning Research Intern

- Empirically investigated a novel machine learning optimizer, Sharpness Aware Minimization
- Implemented the Sharpness Aware Minimization and Stochastic Gradient Descent optimizers and trained/tested models on the CIFAR-10 image classification data set
- Published abstract in George Mason's student research journal

PROJECTS

Renaissance Research | *Next.js, React.js, BeautifulSoup, Pydantic, Google Gemini API*
Project Website: `https://www.renresearch.co/`

- Developed Renaissance Research, a tool that scrapes previously overlooked papers and theses, and uses AI to evaluate their potential to contribute to research today.
- Scraped **150+** theses and provided fair, realistic evaluations on their applicability to modern-day research questions.
- Won the **Best use of AI** and **Best Finance/Data Analytics Project** awards at HackTech 2025, Caltech's annual hackathon.

333gle | *C/C++, Networking*

- Built a HTTP server from scratch in C++ using low-level sockets, process-based concurrency, and POSIX file I/O.
- Handled concurrent static file serving and search queries via a custom-built query processor with minimal latency.
- Optimized query performance by implementing memory-safe data structures in C to index and cache file metadata.