

## EDUCATION

University of California, Berkeley | Intended Graduation: May 2025

GPA: 3.86/4.0

B.A. Computer Science

- Relevant Coursework: Digital Design [ASIC], Networks, Quantum Mechanics, Electricity and Magnetism, Data Structures, Operating Systems, Efficient Algorithms, Multivariable Calculus, Probability Theory, Machine Learning, Computer Security,

## PROFESSIONAL EXPERIENCE

Goldman Sachs | New York, NY

June 2024 – August 2024

Software Engineering Intern/ Summer Analyst

- Automated the applied margin calculation process for 25000 commercial loans, simplifying visualization for bankers
- Utilized a Domain Specific Language to format and parse Credit Agreement rules into custom data structures for frontend
- Built an interactive object-based model for forming complex, multi-element logical rules
- Engineered the backend using Python and ANTLR4 for DSL processing; designed a frontend with Typescript and React

Climate Dynamics at Berkeley (Boos Group) | Berkeley, CA

September 2023 - Present

Undergraduate Researcher

- Utilizing and developing independent metrics to better predict the onset of the Indian Monsoon through analyzing 20+ years of IMERG data, NWP (GFS, HRES) forecasts, and newer AI forecasting Models [Neural GCM, FourCastNet]
- Analyzed extreme precipitation data from weather stations in Cameroon utilizing Xarray, TAHMO API, and NumPy
- Developed a shell script cron job to scrape daily satellite data and generate various extreme precipitation plots.
- Building a dynamic website for precipitation data visualization integrating 1-Day IMERG data to display cumulative plots-including recent 5-day rainfall, real-time vs. historical averages; actively used by farmers in Kumbo, Cameroon (80,000 pop)

UC Berkeley Department of EECS | Berkeley, CA

August 2023 - Present

Undergraduate Course Staff – CS61C – Machine Structures

- Aiding a 750-student class during Office Hours and forums, addressing questions on C, RISC-V, circuitry, and parallelism
- Dedicating 8+ hours a week to creating course materials, running weekly mini lectures, and grading work

nth Solutions | Exton, PA

June 2020 – June 2021

Data Analyst Intern

- Developed data conversion scripts for analyzing harmonic time series in MATLAB, python, Octave and R.
- Constructed regression models for comparing on-vehicle tire balancing data using TensorFlow and PyTorch
- Developed a quaternion to Euler angle conversion script for sensor fusion of accelerometer and gyroscope data

## PROJECTS

### RISC-V CPU

- Designed a 3-stage pipelined RISC-V CPU utilizing ASIC architecture fitted with a direct-mapped, write-back memory cache, WB-EX data hazard forwarding, branch prediction, stall logic, and optimal Place and Route. Utilized Verilog

### NetflixGPT

- Developing a Netflix and Crunchyroll AI chatbot companion that provides spoiler-free Q&A using OpenAI's LLMs
- Built a FastAPI RESTful backend using LangChain for multi-stage prompting, pinecone for storing plot summary embeddings, and a custom web-scraping algorithm using MediaWiki framework and SerpAPI

### Ketchup

- Developing a Quality-Of-Life MacOS client that scrapes iMessage data and performs topical analysis and summarization
- Utilized TauriApp, Next.js for frontend; employed LangChain and leveraged the power of GPT-4 LLM for topic summarization; created custom scraping solution to retrieve data from iMessage SQLite database

### Gitlet

- Developed a file version-control system inspired by git capable of initializing a directory, adding files to stage, commit changes/files to directory, printing a log of commits, create branches, switch between branches and merge branches

## EXTRACURRICULAR ACTIVITIES

UC Berkeley Department of Music | Berkeley, CA

July 2022 – Present

Instructor – “Playing By Ear” Class

- Co-teaching a student-facilitated class for 5+ semesters, instructing 25 students on the art of playing music by ear
- Producing and teaching lectures on music theory, ear training, improvisation, and fundamental piano skills

## SKILLS & INTERESTS

**Technical Skills:** Java, Python, C, SQL, Javascript, Typescript, NumPy, Matplotlib, pandas, MATLAB, Scheme, SciPy, Xarray, REST API, Assembly (RISC-V, x86), HTML/CSS, Node.js, React.js, LangChain, Next.js, GoLang, Rust, Pytorch, Verilog, ASIC

**Interests:** Meteorology, Geography, Piano, Music Transposition, Football, Skiing, Lacrosse, Infrastructure, Airplanes, Architecture