

Ember Lu

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EDUCATION

University of California, Santa Cruz <i>Bachelor of Science in Computer Science, 4.0 GPA</i>	Santa Cruz, CA Sept. 2024 – Dec. 2027
American High School <i>4.3 GPA</i>	Fremont, CA Aug. 2020 – May 2024

EXPERIENCE

Software Engineering Intern <i>Overture Maps Foundation</i>	Sept. 2025 – Dec. 2025 <i>Santa Cruz, CA</i>
<ul style="list-style-type: none">Adapted 3+ lightweight language and embedding models (Meta, Microsoft, Google) into high-performing sequence-classification models tailored for intaking 3K+ geospatial data points.Optimized model performance to 90%+ by implementing PyTorch optimization pipelines, LoRA fine-tuning, and maintaining thorough documentation of OKR progression.	
Software Engineering Intern <i>PicnicHealth</i>	Jul. 2025 – Sept. 2025 <i>San Francisco, CA</i>
<ul style="list-style-type: none">Built 2 full-stack AI features (React, Node.js) that accelerated a clinical trial record workflow by 95%Integrated scalable APIs and UIs with REST controllers, real-time React/Apollo GraphQL components, Temporal workflow endpoint calls, and PostgreSQL/Hasura data operationsPioneered groundwork for applying AI to streamline health tech research study operations within future projects	
Software Engineering Intern <i>Biomedical AI Lab</i>	Jan. 2025 – Present <i>Santa Cruz, CA</i>
<ul style="list-style-type: none">Processed 150+ Hepatitis B capsid PDB files with MDTraj/MDAnalysis and scripted automated protein dimer identification via center-of-mass proximitySimulated protein structures with OpenMM/ChimeraX to generate PDB data for ML model training within a Linux server environment under Professor Razvan Marinescu	

PROJECTS

CalmSense <i>Pytorch</i>	Jun. 2025
<ul style="list-style-type: none">Using PyTorch and health data to build a neural network that detects oncoming anxiety attacks and warns usersAchieved 3rd Place in the Santa Cruz Artificial Intelligence hackathon	
OccasionAll <i>Flask, Gemini AI, Spotify API</i>	Oct. 2024
<ul style="list-style-type: none">Developed Full-stack web app utilizes Flask, Gemini AI, and Spotify API to generate an enhanced Spotify playlist, customized to the user's description of their event	
2x Machine Learning Research Papers <i>Python, Matplotlib, Sci-kit Learn</i>	2020, 2022-2023
<ul style="list-style-type: none">Led a research publication and a team of 4+ to build a RandomForestClassifier using data from 19 public health factors to determine COVID-19 risk levels by US countyDirected a team of 4+ in statistical analysis of the encrypted Voynich Manuscript to decode its unknown language and co-wrote a pending research paper discussing its results	

LEADERSHIP

Marketing Lead <i>Santa Cruz Artificial Intelligence</i>	Aug. 2025 – Present
Director of Internal Affairs <i>Google Developer Group</i>	Jun. 2025 – Present
President <i>Girls Who Code</i>	Jan. 2025 – Present

TECHNICAL SKILLS

Languages: Python, TypeScript, Java, C/C++, SQL, R, JavaScript, HTML/CSS, English, Mandarin
Frameworks/Techologies: React, Node.js, Flask, Hasura, PostgreSQL, Docker, Linux
Developer Tools: Git, Google Cloud Platform, Temporal, Linear, Figma, Microsoft Office
Relevant Coursework: Data Structures and Algorithms, Computer Architecture, Principles of Electronics, Foundations of Programming Languages, Calculus III (Fall 2025-Spring 2026), Computer Systems/Assembly, Discrete Math, Linear Algebra, Calculus II, Python Abstractions