

Ethan Bai

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ABOUT

I am an undergraduate student looking for internships and full time positions in software development and engineering. I am particularly passionate about building quality products and services that will serve the needs of customers.

WORK EXPERIENCE

Software Development Engineer Intern

June 2024 – August 2024

Amazon

- Designed a graphical database in AWS Neptune to handle live data from over 4 million users and identify complex relationships between events to pinpoint abusive accounts
- Built cloud infrastructure and data pipelines to support over 3.1 million requests daily of on demand data transfer from AWS S3 to AWS Neptune
- Optimized AWS resources for server load and scalability to reduce running costs by 90%

Undergraduate Student Researcher

January 2024 - March 2024

Human Centered Robotics Lab

- Developed prompts to automate the creation of finite state machines using GPT-4
- Simulated home environments using Meta Habitat and tested on Stretch robots

Technology Intern

September 2023 – November 2023

Centific

- Developed and deployed a machine learning model for Outlook using Nimbus ML to filter out emails containing offensive language to reduce user exposure to harassment and harmful content with 99% accuracy
- Designed a sentiment analysis model that classified messages as positive or negative with 83% accuracy

EDUCATION

University of Washington

Seattle, WA

Bachelor of Science in Computer Science - GPA: 3.95

Sep. 2022 – December 2025

- Courses: Software Design and Implementation, Data Structures and Parallelism, Databases, Hardware and Software Interface, Machine Learning, Systems Programming, Discrete Mathematics, Algorithms, Operating Systems, Technical Writing
- Organizations: Computing Community (Executive Board), Husky Coding Project, Interactive Intelligence, Husky Badminton Team

TECHNICAL SKILLS

Languages: Java | Python | TypeScript | SQL | C | C++

Frameworks: AWS | React | Node.js | Flask | TensorFlow | ML.NET

Developer Tools: Git | Linux | IntelliJ | Visual Studio Code | DeepNote | Jupyter Notebook | Google Colab | AWS CDK

Certifications: Advanced Learning Algorithms | Unsupervised Learning, Recommenders, Reinforcement Learning | Supervised Machine Learning: Regression and Classification

Awards: Eagle Scout, National Merit Scholar, Presidential Volunteer Service Award, Magna Cum Laude

PROJECTS

Java Game Engine | Husky Coding Project | *Java, Git*

May 2023 – November 2023

- Created a game engine that supports a customized version of the Pac-Man video game that contains original maps, music, and dynamic user modifications
- Overcame issues of slow rendering speeds by using parallelism and layer separation for graphics in Javafx
- Developed a physics engine that handles object collision and rotation for future use in the creation of an original Angry Birds game

Fred Hutch Social Network | Personal Project | *Python*

July 2023 – August 2023

- Built a back-end application to track research co-authorship between scientists on the infectious disease team and visualized their mutual efforts before and throughout COVID-19 using SOCNETV
- Cleaned and parsed data from thousands of research papers into graphical formats to create readable databases and user friendly visualizations