

# Katherine Hancock

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## Education

### University of Southern California

M.S. in Computer Science

Coursework: Machine Learning, Applied Natural Language Processing, Analysis of Algorithms, Web Technologies

Los Angeles, CA

August 2025 – May 2027 (Expected)

### University of Washington

B.S. in Human Centered Design & Engineering – Human-Computer Interaction

Cum Laude

Seattle, WA

September 2019 – June 2023

## Work Experience

### Software Engineer Intern, Ads - Display & Video 360 Infrastructure

Google

Kirkland, WA

May 2026 – Present

- Built a Python and Go multi-agent bug-triage system to generate issue summaries, investigation plans, duplicate-ticket suggestions, and technical context for newly filed tickets.
- Implemented durable, shareable AI sessions that preserve context across service restarts and support investigation handoffs between engineers.
- Designed and built an LLM-powered feedback analysis pipeline during BuildAI Week that clusters user feedback into stable issue themes, incrementally assigns new feedback to existing clusters, and surfaces actionable insights.
- After completing core milestones ahead of schedule, modernized Java backend code and migrated legacy AI workflows into reusable skills, adding automated regression tests to validate outputs and reduce maintenance.

### UI/UX Designer

iSoftStone

Bellevue, WA

February 2024 – January 2025

- Designed an AI-powered reverse-image-search workflow for a digital asset management platform.
- Created the company's design system from scratch, including colors, navigation, and 40+ reusable, responsive components.

### Interactive Systems Design & Technology (HCDE 310) Teaching Assistant

University of Washington

Seattle, WA

January 2023 – March 2023

- Taught Python programming and led biweekly office hours for 40+ students.

### Software Engineer Intern

T-Mobile

Bellevue, WA

June 2022 – September 2022

- Built an internal project-management and reporting tool using Power Apps, Power Automate, and Power BI for 50+ project managers.

## Project Experience

### Mitigating Dialect Bias in Toxicity Detection

February 2026 – May 2026

- Developed and evaluated fairness interventions for toxicity detection using BERT embeddings, XGBoost, vector scaling, reweighting, and adversarial debiasing.
- Reduced the AAE–SAE false-positive-rate gap by 95%, from 0.233 to 0.011, while evaluating accuracy, F1, subgroup error rates, and disparate impact.

### AI Pacman

September 2024 – October 2024

- Implemented Pacman agents using DFS, BFS, A\*, minimax, and Q-learning for graph search, planning, adversarial decision-making, and reinforcement learning.

### LLM-Assisted Debugging for Novice Programmers

January 2023 – March 2023

- Developed and evaluated a Python-based LLM debugging assistant for novice programmers, studying how users interpreted and acted on generated explanations.

### Happy to Be Included: Job Recruitment Platform

January 2023 – June 2023

- Built Python, Flask, and SQL candidate-search features for an inclusive job recruitment platform, translating stakeholder research and usability findings into product requirements.

## Awards

- **Brave Award**, University of Washington Human-Centered Design & Engineering Capstone Showcase

June 2023

## Technical Skills

- **Languages:** Python, Java, SQL
- **ML/AI:** PyTorch, scikit-learn, XGBoost, BERT, RAG, Agent Development Kit
- **Tools/Frameworks:** Flask, Git, Linux/Bash, REST APIs, relational databases