

# Puloma Katiyar

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## EXPERIENCE

### Software Engineer

Aug. 2023 – Present

*HP - Ink Supplies Security Firmware*

*Vancouver, WA*

- Worked on a **large codebase** to develop security firmware for detection of counterfeit ink cartridges
- Designed and implemented Zlib based data compression for efficient communication with the cloud
- Refactoring test framework for supplies component and significantly improved debugging
- Increased unit test coverage by 40% for multiple components by implementing new Google Test framework
- **Technologies:** C++, GitHub, Docker containers, Linux, Google Test Framework, gdb, qemu

### Software Engineering Intern

Jun. 2022 – Sep. 2022

*Meta (Facebook) - Ads Products: Optimization*

*Menlo Park, CA*

- As part of Ads Optimization team (impacts **40% Meta revenue**), developed new ads product that optimizes for deep funnel events using **machine learning**. Worked on end-to-end solution from custom **data pipelines** for model training to online serving in the **high performance distributed** ads delivery system.
- Automated performance analysis of ad campaigns for improved scalability
- **Technologies:** Presto, Hadoop/Hive, Dataswarm (like Airflow), Scuba (like Tableau), SQL, Python, Mercurial

### Software Engineering (STEP) Intern

Jun. 2021 – Sep. 2021

*Google - Commerce: Hotels Growth*

*Mountain View, CA*

- Quickly learned Google's complex **distributed search** serving framework. Developed code to query data for an upcoming feature to provide a more immersive experience on the hotels search page.
- Added "About this Result" feature to Google's main hotels search results page. Ran experiment validation and launched feature. Feature used by **hundreds of millions of users**.
- **Technologies:** Java, Protobuf, HTML, JavaScript, Google Test Framework

### Undergraduate Research Assistant

Jan. 2020 – Nov. 2020

*Big Data Lab - UC Riverside*

*Riverside, CA*

- Developed a **full-stack web application** to generate spatial datasets with user-configured parameters
- Built streaming generator to optimize response time to less than 1 sec for all queries, regardless of dataset size
- Published paper in ACM SIGSPATIAL 2020 conference: "SpiderWeb: A Spatial Data Generator on the Web"
- **Technologies:** Python, HTML, Ajax, JQuery, Bootstrap, GitHub, Linux, Apache Server

## EDUCATION

University of California, Irvine

Sep. 2021 – Jun. 2023

University of California, Riverside

Sep. 2019 – Sep. 2021

*B.S. in Computer Science*

**GPA: 3.7**

**Relevant Courses:** Data Structures and Algorithms, Database Management, AI/Deep Learning, Operating Systems

**Technologies:** Java, C++, Python, PyTorch, JavaScript, HTML/CSS, SQL, Linux

## OTHER PROJECTS

**Fake Reviews Detector** - *UCI Project in AI/ML*

Dec. 2022

- Designed long short-term memory (LSTM) **neural network** to identify bot-generated reviews for products
- Implemented logistic regression classifier and SVM to compare against the results of the LSTM

**Pintos Operating System** - *UCI Intro to Operating Systems*

Jun. 2022

- Enhanced threads implementation in Pintos OS and added priority scheduling of threads

**Search Engine** - *UCI Information Retrieval*

Dec. 2021

- Implemented text search engine in Python, including a crawler, indexer, and searcher

**Hackathon** - *UCR Cutie Hack*

Nov. 2019

- Won 1st place. Built a mobile game for Android in under 12 hours within a team of 4.
- Developed game logic in Java and tested to improve game flow

## ACTIVITIES

**President, Secretary** | *Association for Computing Machinery at UCR*

Feb. 2020 – Sep. 2021

**Membership Chair** | *Women in Computing at UCR*

Feb. 2020 – Apr. 2021