

# Aastha Upadhyay

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**Skills:** Python (pandas, NumPy, matplotlib, seaborn), Java, SQL, Scheme, C++, Golang, Kubernetes, Docker, PHP, HTML, CSS, JavaScript, RISC-V, Android SDK

## EDUCATION

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**University of California, Berkeley**

**Expected Graduation: May 2023**

**Bachelor of Arts, Major: Computer Science | Minors: Data Science & Buddhist Studies**

**Relevant Courses:** The Structure and Interpretation of Computer Programs, Data Structures & Algorithms, Designing Information Devices and Systems I, The Foundations of Data Science, Efficient Algorithms and Intractable Problems, Discrete Math and Probability Theory, Computer Architecture, Principles and Techniques of Data Science

## EXPERIENCE

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**Distributed Systems Software Engineering Intern**

**San Jose, CA**

o Nirmata | Kubernetes Management Tech Startup

May 2021 – August 2021

Built prototypes for leader election, distributed locks, and distributed workflows using Java and Golang to replace Curator and Zookeeper for Nirmata's Kubernetes-based services. Tested performance of developed prototypes and verified they were more efficient than Nirmata's current solutions when scaled up to over one thousand replicas.

**Outreach Lead**

**Berkeley, CA**

o FEMTech | Diversity-Based Student Organization

Spring 2020 – Present

Collaborating with tech companies to arrange career-building events including speaker series, panels, Q&A sessions, and monthly visits to local companies in the Bay Area. Organized events featuring a Silicon Valley startup CEO and the head of the Women in Tech Initiative at University of California to discuss topics of interest for club members such as AI hiring.

**Make Department Intern**

August 2019 – Spring 2020

Hosted a series of workshops at a high school catered towards students with learning disabilities about how to program and build an Arduino robot to promote exposure to STEM fields at a younger age. Completed certifications with the Jacobs Institute of Design for internal projects involving skills such as 3D printing and laser cutting techniques.

**Facilitator for TeaCal: An Exploration of Mindfulness and Meditation**

**Berkeley, CA**

o University of California, Berkeley | DeCal Program

August 2020 – Present

Conducting weekly classes at the Universal Chan Buddhist Zen Center, developing the syllabus for the course, and teaching students about the importance of mindfulness in daily life under guidance of Buddhist Monk Da Xing. Received feedback stating that students' stress levels and ability to concentrate have generally improved as a result of the mindfulness techniques we teach.

**Web Development Summer Intern**

**Sunnyvale, CA**

o Preemadonna | Tech Startup

Summer 2017 – Fall 2017

Developed a web application that prompts young users to create designs through using python programming fundamentals, allowing for both creativity and critical thinking. Conducted beta testing with target group for the application to determine which user interface features were optimal for user experience. Led a demonstration of the application in front of investors from Adobe.

## PROJECTS

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**Leader Election Application and Workflow Library** | Java, Golang, Kubernetes, & Docker

May 2021 – August 2021

Replaced classes in one of Nirmata's services to use Fabric8 for leader election instead of the Curator logic. Developed a workflow library that updates Kubernetes custom resources to manage thousands of tasks in parallel in a distributed environment.

**Christmas Themed Pac-Man** | Java

November 2020 – December 2020

Created a Christmas-themed, Pac-man style game that pseudo-randomly generates a complex new game board based on a seed passed in by the user with features such as saving and reloading functionality, sprite to sprite interaction, and a replay option.

**Bear Maps** | Java

September 2020 – November 2020

Developed an application with the ability to raster an image corresponding to a map of the region specified by the user by using kd-trees and built an AI that provides the optimal set of street directions given a start and destination latitude and longitude using the A\* algorithm.

**Career Coach** | HTML, CSS, & JavaScript

April 2018 – July 2018

o 1st Place at State Leadership Conference o 9th Place at National Leadership Conference

Designed a website using HTML and JavaScript to optimize a user's experience during the job application process including an advice section about perfecting resumes, cover letters, and interview conduct. Presented to a panel of expert web developers.

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**Interests:** Basketball, Hiking, Meditation, Tea, Spikeball, Sanskrit