EDITH LLONTOP

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EDUCATION:

University of California, Berkeley *August 2019 - May 2023*

B.S Electrical Engineering and Computer Sciences

Relevant Coursework: Introduction to Artificial Intelligence, Optimization Models in Engineering, Introduction to Robotics, Modern Computer Vision & Deep Learning, Data Structures & Algorithms, Discrete Mathematics and Probability Theory In Progress: Introduction to Machine Learning, Computer Graphics and Imaging

TECHNICAL SKILLS:

- **Programming Languages**: Python | SQL | Java | Javascript | C | C++ | CSS | HTML | RISCV
- **Technologies:** OpenCV | AWS | Docker | ROS1 | ROS2 | Snowflake | Apache Spark | PySpark | TensorFlow
- **Tools**: GitHub | Isaac Gym| Jupyter Notebook | Azure DevOps | Microsoft Office | 3D Printing | Laser Cutting
- **Robots:** UR5 | Sawyer | TurtleBot | Unitree

PROFESSIONAL EXPERIENCE:

AUTOLab Undergraduate Researcher - BAIR *October 2022 - Present*

Deformable Multi-Object Grasping

- Submitted paper to **Robotics: Science and Systems Conference** on quickly and efficiently removing deformable objects from an initial cluttered surface to a bin.
- Implemented 3 analytical heap consolidation policies in **Python** that group deformable objects together to create optimal grasps based on Max-Volume, Max-Weight, and Max-Height methods.
- Collected data on over **90 experiments** using the UR5 robot and overall results showed that robot basket trips were reduced by **35.8%**, and the weight per grasp increased by **55%.**

FogROS2 Cloud Robotics

- Built a Cloud Computer Virtual Machine Image Management tool in **Python** that decreased runtime by **63%** compared to other prior work, using **Amazon Web Services (AWS)** as the cloud computing provider.
- Accepted paper submission to the **International Conference on Robotics and Automation**; roboticists who feel limited by the hardware, can harness the immense computing power provided in the cloud.

Nextdoor *May 2022 - August 2022*

Backend Software Engineering and Machine Learning Intern

- Strengthened a Natural Language Processing model by **40%**, developing **15 new features** based on the most common words from reported/removed posts, to identify if a user will be posting harmful/hurtful content.
- Built an Application Programming Interface that would return the effectiveness of features for any given post, by using **Apache Spark** to retrieve the data and train it with a **logistic regression** model.

BlackRock *June 2021 - August 2021*

Backend Software Engineering Intern

- Worked with **Snowflake** using **Python** and **SQL** to query data, and reduced runtime from **12 hours** to **0.13 seconds** had a direct impact on all users
- Developed an Application Server in **Java** by utilizing **Apache Spark** to build a pipeline that would collect all broker data and write to parquet files to reduce the loss of information and increase time efficiency by **75%**

UC Berkeley College of Engineering *July 2020 - May 2022*

Computer Science and Electrical Engineering Teaching Assistant

- Taught sessions with **15-20 students** to reinforce course content, and helped with homework, labs, and projects during Office Hours, to students taking Electrical Engineering and Computer Science Courses.
- Received **100%** positive feedback on how my class has helped them do better in the course.

PROJECTS:

Piano Playing Sawyer

- Programmed the computer vision pipeline using OpenCV in **Python** that uses image thresholding, canny edge detector, and identifying the contours to identify the pressed piano key from the user.
- Implemented a publisher/subscriber communication system in **ROS1**

Hands-Free Machine Learning Musical Garden

- Connected a servo motor, DC motor, and a solenoid into an ESP32 using an Arduino IDE in **C++,** integrated with a machine learning algorithm in **Javascript**, that would detect hand motion to play a certain instrument.