# Kunal Dutta

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## EDUCATION

**University of California, Berkeley** Expected Grad. May 2022
***Bachelor's of Arts, Computer Science with Minor in Mathematics* | GPA: 3.634**
Relevant Coursework: Efficient Algorithms; Data Structures; Discrete Mathematics; Electrical Engineering; Linux System Administration; Operating Systems; Probability and Random Processes; Artificial Intelligence; Data Science; Multivariable Calculus

## PROFESSIONAL EXPERIENCE

**YouRL: Social Media Startup | Long Beach, CA**
***Software Engineer*** January 2020 - Present
- Led web engineering team for YouRL, a social media startup that consolidates a user's online presence to an app and website.
- Designed a web interface for social media users, creating custom pages for each user on the platform using Firebase data.
- Deployed home page for corporate website, with login system and custom web design.
- Tools Used: Python, Django, HTML, CSS, JavaScript, Firebase

**iD Tech Camps | Campbell, CA**
***Computer Science and Math Instructor*** June 2020 - September 2020
- Taught 1-on-1 and group private lessons about programming, mathematics, and other technology fields to students ages 9-19.
- Developed company-wide curriculum/lesson plans for object-oriented programming, machine learning, and mathematics coursework.
- Courses Taught: Python, Java, Machine Learning, Artificial Intelligence, Cyber-Security, Calculus

## PROJECTS

**Smart Surveillance System | Programming and Engineering Project**
***https://github.com/kdutta9/Smart-Surveillance***
- Implemented real-time motion detection system that alerts a user with Twilio API and sends the footage via cloud storage (AWS S3).
- Built hardware systems with Raspberry Pi and cameras, which deployed to a 18-house neighborhood.
- Tools Used: Raspberry Pi, Python, OpenCV, Twilio API, Amazon Web Services

**Basketball Shot Tracker Application | Programming Project**
***https://github.com/kdutta9/ShotTracker***
- Created an Android application that can detect basketballs and hoops, and count shots missed and made.
- Trained custom TensorFlow Lite model using YOLOv4 real-time object detection and cloud computing (Google Cloud).
- Tools Used: Python, Java, TensorFlow Object Detection API, YOLOv4, Google Cloud Platform

**Daily Basketball Fantasy Projections | Club Project**
***https://sportsanalytics.berkeley.edu/fantasyprojections***
- Designed and built web pages that display projection data for fantasy basketball, updating daily via cron job.
- Implemented filters to search via player name, position, and team, using JavaScript functions on a result table.
- Tools Used: Python, Pandas, HTML, CSS, JavaScript, Shell

**Gitlet | School Project**
***https://github.com/kdutta9/coursework/tree/master/cs61b/gitlet*** *(private)*
- Built version control system that can track and commit file changes, revert to previous versions, and create branches.
- Implemented methods to efficiently search for data and track commits, using Djisktra's Algorithm and various data structures.
- Tools Used: Java

## SKILLS

**Languages:** Python, Java, C, HTML, CSS, RISC-V Assembly
**Frameworks:** OpenCV, Django, Flask, TensorFlow Object Detection API, NumPy, JUnit testing
**Technologies:** Git version control, Raspberry Pi, Android Studio, Amazon Web Services, Google Cloud Platform, Linux/Unix

## LEADERSHIP

**Sports Analytics Group at Berkeley**: Executive Treasurer, Sports Analytics Projects team member
**UAVs@Berkeley:** Computer Vision team member
**Cal Mic Men:** Leader of student section, Master of Ceremonies for sporting events for attendance up to 65,000 people
**808s and Fastbreak**: Editor in Chief and Content Creator for data-driven sports analytics blogs, podcasts, and videos