Yash Kapoor

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EDUCATION

University of Maryland - A. James Clark School of Engineering **College Park, MD**
B.S. Computer Engineering *Jan 2019 - July 2022*

WORK EXPERIENCE

Brilliant Home Technology, Inc. **San Mateo, CA**
Backend Engineer *Aug 2022 - Present*

- Brilliant is a smart home company that aims to achieve a **truly smart home** where all your **smart devices are integrated together** under one system that allows for much greater convenience and **automation**.
- Created a new service for sending and managing notifications to users for various alarms in their properties, allowing homeowners and property managers to have an early warning for problems and save thousands of dollars on late repair costs.
- Implemented the new service backend with **Python**, using **Postgres** to store notification metadata, and **Mailchimp** and **Twilio** for sending alarm notifications to the relevant users via email and text messages, respectively.

University of Maryland **College Park, MD**
Teaching Assistant: Electrical and Computer Engineering *Jan 2021 - May 2022*

- Held weekly labs and office hours twice a week, assisting students from a class of over 100 students and closely guiding a class of 12 with electrical and computer engineering concepts such as **circuits**, **wireless communication** and **signal processing**.
- Assisted other TAs and professors in designing engaging labs and projects in **Python**, **MATLAB** and **Verilog**, and subsequently grading them.

University of Maryland **College Park, MD**
Head Research Assistant: Internet of Things *May 2021 - Aug 2022*

- Led a small team of undergraduate and graduate students to research and develop a low-cost system for **swarm technology** to be used for humanitarian acts such as disaster relief.
- Developed algorithms to estimate flight parameters of drones using **Python** and **OpenCV** to process real-time image data.

Combating Overdoses in Rural Areas (CORA) **College Park, MD**
Software Engineer *Dec 2020 - May 2021*

- Web app developed using a **MERN** stack that provides the location of opioid resource centers in Maryland, allowing users to query for centers based on tags and location. Individual resource pages provide basic information about the selected center.
- Created a REST API backend layer using **Node** and **Express,** and also populated the database as part of the data team responsible for collecting information about various resource centers mainly utilizing Python's **Requests** and **Pandas** libraries, increasing area coverage by 30%.

The Hare **College Park, MD**
Frontend Engineer *Aug 2020 - May 2021*

- Web app developed using **MEVN stack** for a University of Maryland-exclusive satire newspaper inspired by The Onion that reports on both local and national current events with their own brand of satire and has a consistent user base of 2000+ students and staff.
- Partially designed and fully implemented the custom **VueJS** component for hosting news articles used throughout the web app, leading to an increase in website traffic by 40%.

PROJECTS

Sheet Music: Video to PDF

- Created a program to analyze a YouTube video to detect relevant frame to frame changes and extract sheet music into an image or PDF for convenient usage.
- Used **OpenCV** and **NumPy** to process the video and efficiently compare thousands of pairs of consecutive frames and find the most relevant ones for extraction.

SKILLS

Web Development: HTML/CSS, Javascript, ReactJS, VueJS, ExpressJS, NodeJS, Bootstrap
Data: Python (Pandas, BeautifulSoup, Matplotlib, Numpy), PostgreSQL, MongoDB, MATLAB
Machine Learning: Scikit Learn, Keras, Tensorflow
Other: Git, Java, C++, Ruby, OCaml, MIPS Assembly, Android Studio
Engineering: Arduino, Raspberry Pi 4, Verilog, Circuit Development, Controller Design, Signal Processing, Embedded Systems