HRITHIK BANSAL

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EDUCATION

University of Maryland — College Park, MD
B.S., Computer Science — *Expected May 2022*
GPA: 3.84
Dean's List: 2018, 2019, 2020.
Honor's Programs: Computer Science Honors.
Special Programs: QUEST Honors Program (accepted into highly competitive, teamwork-based program to develop critical thinking, analytical, and problem-solving skills)

EXPERIENCE

University of Maryland (College of Computer, Mathematical and Natural Sciences) — College Park, MD
Teaching Assistant — *Jan 2021 – Present*

- Teaching Assistant for CMSC 414: Computer and Network Security.
- Topics span simple exploits such as Buffer Overflow and Fuzzing to Web Attacks, Cryptography and Networking.

Sandbox Makerspace (UMIACS) — College Park, MD
Student Web Developer — *Sep 2019 – Present*
Lab Manager — *Sep 2018 – Sep 2019*

- Produce a web application powered kiosk for students to work on their projects remotely, by allowing them to pre-reserve makerspace equipment, checkout tools from the space, and allow for reserve 'studios'.
- Design the kiosk, from designing the hardware (Raspberry Pi) to writing the software (React + Node).
- Remodeled the space to be more inclusive and simplify tool accessibility by designing the 'Tool Wall'.

Trak N Tell — Delhi (NCR), India
IoT Developer Intern — *Jul 2020 – Oct 2020*

- Engineered the software and hardware for a face recognition system, which was in turn used as a vehicle driver authentication device to selectively start the ignition and increase high-value logistics' vehicle security.
- Upgraded the face recognition system with android based infotainment systems for proprietary uses.
- Optimized the software for embedded face recognition on a Raspberry Pi, using skip-frame processing.

RESEARCH

Human Computer Interaction Lab — College Park, MD
Independent Research — Sep *2019 – May 2020*

- Formulated the idea for a long-distance collaboration tool, to convert digitally written text into physical text.
- Explored the functionality, scope for physical transcription of digital handwriting on a whiteboard using CNC.
- Identified the various design challenges of making the system portable and built initial prototypes for testing.

PROJECTS

SPOTIFY CLONE — Live | GitHub
Independent Project — *Jul 2020*

- Built a fully mobile responsive clone of the Spotify web app using React and the Spotify API.
- Implemented full user-authentication through the API, and enabled dynamic content fetching, and rendering.
- Utilized Material UI to mimic the User Experience of the original app and hosted the same on GitHub pages.

HELPING HAND — Live | GitHub
Independent Project — *May 2018*

- Developed a Bluetooth enabled robotic arm that can physically mimic the human arm using geared actuation.
- Created an Android app to control the robot, which included translation on ground, and 'arm' manipulation.

TECHNICAL SKILLS

Languages: Python, JavaScript, C, Ruby, C++, Java, HTML, CSS, SQL, Bash, Git
Frameworks: Docker, Jupyter Notebook, Pandas, React, OpenCV, Flask, Rails
Technologies: PWAs, REST APIs, Containers, IoT, Embedded Automation

SOCIAL ENTREPRENUERSHIP

All Time Protection — Delhi, India
Founder — *May 2020 – Present*

- Founded All Time Protection during my 'quarantine' in the pandemic, to fulfill the market need for cotton masks.
- Engaged independent tailors in Urban-Villages to outsource manufacturing and empower entrepreneurship.

ADDITIONAL

Relevant Coursework: Computer Vision, Data Structures and Algorithms, Functional Programming, Entrepreneurship, Microeconomics, Design and Quality, Design Thinking