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Dhvanil Shah

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EDUCATION

New York, NY **The Cooper Union** **Sept. 2016 – May 2021**

- B.Eng. in Electrical Engineering, May 2020. GPA: 3.32 / Major GPA: 3.71.
  Coursework: Deep Learning; Data Science for Social Good; Large Scale Software Engineering; Cybersecurity; Computer Graphics; Operating Systems; Computer Architecture; Data Structures and Algorithms.

WORK EXPERIENCE

Software Engineer, Intern **Oyster Tracker** **Summer 2018**

- Produced a prototype farm-to-table traceability solution for the shellfish production and sourcing industry using a React web-portal paired with React Native field application.
- Built a GraphQL API using a Node.js server and MongoDB for efficient and flexible data management.
- Established partnerships with head members of shellfish traceability at the FDA.
  Gained experience in: Full-Stack Development, Cloud Deployment, iOS Deployment, Agile Workflow

Software Engineer, Intern **Peeko Oysters** **Summer 2017**

- Developed a serverless GIS inventory management software using Firebase and the Google Maps API.
- Wrapped the HTML/CSS/JS software for Android using Adobe PhoneGap.
  Gained experience in: Cloud Computing, Cloud Storage, Android Deployment, User Testing

PROJECTS

Sustainable Agriculture Project **2020**

- Developed a C++ ESP-8266 micro-controller library for monitoring and automating hydroponic systems.
- Integrated an MQTT broker to a RESTful Node.js server for efficient sensor data logging and sharing.
- Created a React Native mobile application for data visualization and ESP-32 hardware configuration over BLE.
- Lead a team of 20 artists, architects, and engineers to create a well-designed open-sourced educational kit.
- Awarded the Cooper Union President's Grant ($9,500) and the Engineering Dean's Grant ($6,500).

Hiding from the Eyes of the City **2020**

- Explored camouflage from facial recognition surveillance for the 2019 Biennale of Urbanism\Architecture.
- Built a surveillance system using a Multi-Task CNN for face detection and a ResNet model for face recognition.
- Simulated camouflage from facial recognition using a custom YOLOv3 model to identify disguises which allow individuals to hide from the "eyes of the city."

Girls Who Code Research **2020**

- Partnered with the Girls Who Code nonprofit to apply data science, machine learning, and data visualization techniques to real world, data-oriented problems.
- Worked with graphic designers to produce rich data visualizations utilizing Pandas, SQL, and Tableau.

Soccoa Media **2020**

- Performed technical designs and implementation of a React Native app for sports news broadcasting.
- Created a REST API paired with a React website for content creators to upload articles and podcasts.
- Deployed to the Apple App Store with 100+ downloads: app.dhvanilshah.com

Deep Plant Disease Detection **2019**

- Used the MobileNetv2 architecture to create a light-weight model for identifying plant diseases using the Plant Village dataset; reduced model parameters and achieved a test accuracy of 92% (comprable to GoogleNet).
- Improved real-world inference of plant diseases by creating a two-stage model consisting of a Tiny-YOLOv3 leaf detector paired with the MobileNetv2 disease classifier; improved inference accuracy by 0.2%.
- Project Report: dhvanilshah.com/docs/plant-disease.pdf

SKILLS

Python (Tensoflow 2, Keras, Flask), Matlab, C, C++, Java, Javascript (React, React Native, Express), HTML/CSS