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Dhvanil Shah

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EDUCATION

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

- M.Eng. in Electrical Engineering, May 2021. Expected.
- B.Eng. in Electrical Engineering, May 2020. GPA: 3.32 / Major GPA: 3.71.
  Coursework: Deep Learning; Cybersecurity; Computer Graphics; Data Science for Social Good; Smart Cities; Bio-Instrumentation.

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

SOFTWARE PROJECTS

Sustainable Agriculture Project **2020**

- Developed a C++ ESP-32 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).

disc.cool **2019**

- Worked in an Agile team to develop a symmetric social media platform for sharing music using React.
- Built a composable microservices based REST API using the Spotify Apollo library and a NGINX server.
- Utilized the Spotify Web API to query songs and generate recommendations based on shared songs.

MACHINE LEARNING PROJECTS

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."
- Research Paper: http://ee.cooper.edu/~shah3/Hiding-from-the-Eyes.pdf

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%.
- Research Paper: http://ee.cooper.edu/~shah3/Imporving-Plant-Disease-Identification.pdf

SKILLS

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