Archit Mehta

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Education

Cornell University Ithaca, NY
B.S. Computer Science; GPA: 4.16/4.0 2021 - 2024

Minor: Applied Mathematics

Courses: Honors Object Oriented Data Structures, Large Scale Machine Learning, Analysis of Algorithms, Computer Vision

Activities: Cornell AppDev (Team Lead), Cornell Hack4Impact (Engineering Lead), Association of CS Undergrads (Corporate Officer)

Skills

Languages	Java, Python, C++, TypeScript, JavaScript, OCaml, PHP, HTML & CSS, C#, C
Frameworks	Express & Node.js, Django, Flask, React, React Native, Angular, Spring
DevOps & DB	MongoDB, GraphQL, SQL, Kubernetes, Docker, Azure, AWS, GCP, Protobuf, Jenkins, Terraform
Machine Learning	TensorFlow, Pytorch, SkLearn, SentenceTransformers, NLTK, Pandas, Numpy, Jupyter

Work Experience

Software Engineer Intern, *Apple* *May 2023 - Aug 2023*

- Architected 10,000+ line C++ library from scratch to detect topological and geometric changes in HD Maps for autonomous vehicles, **reducing map update time by 70%**
- Constructed custom UI geometry classes, modals, and event handlers in Objective C to visualize library analysis in custom MacOS application
- Implemented Protobuf schemas for library analysis serialization, visualization, and deployment

Software & Cloud Engineer Intern, *Johnson & Johnson Robotics* *May 2022 - Aug 2022*

- Worked on robotic surgery cloud platform enabling real-time data analytics & communication between IoT robot devices
- Automated deployment of **5,000+ cloud resources** (Azure IoT Hub, Blob Storage, etc) by creating Terraform modules integrated into Enterprise Jenkins Instance
- Conceived & implemented Azure IoT Edge authentication module used across **8 device teams** to interface with cloud

Team Lead (President), *Cornell AppDev* *Feb 2022 - Present*

- Leading **all Software Development (iOS, Android, Backend)** for a team of 50 students building apps with **15,000+** active users
- Constructing team vision, overseeing logistics, and communicating with stakeholders in Cornell administration
- Previously served as Product Lead, Technical Product Manager, and Backend Developer

Software Development Intern, *Atyeti, Inc.* *Jul 2020 - Oct 2020*

- Built HR platform **(React, Express, GraphQL)** to automate onboarding, interviewing, & communications processes
- Utilized the **Microservice design pattern**, creating a microservice for each HR process and event bus for pub/sub inter-service communication
- Dockerized and deployed the platform on Kubernetes cluster

Research

Computer Vision Researcher, *Cornell University* *Aug 2023-Present*

- Working with Prof. Noah Snavely to improve the accuracy of video entity motion detection pipeline
- Implementing **CoTracker optical flow pipeline** for data preprocessing and optimizing neural network efficiency
- Investigating applications of pipeline's bijective mappings to 3D canonical space in **generative AI video editing**

Ventures & Personal Projects

Cornell Semantic Courses: Created a semantic search engine for the Cornell class roster, enabling students to find interesting classes using natural language. Built web and mobile app, fine tuned SentenceTransformer model for asymmetric information retrieval, utilized vector DB to store embeddings.
Tech: React Native, React, Hugging Face SentenceTransformers, Pinecone DB, AWS EC2, Docker

Yolo: Social Events (1,000+ users): Conceived & led development on a social media app designed to help college students discover events on campus and find new friends based on common event interests. Implemented event & friend recommendation algorithms, a content delivery network (CDN), client-server sockets, etc.
Tech: React Native, MongoDB, Express & Node.js, Socket.io, AWS EC2, AWS S3, AWS CloudFront, Docker

NewsFlash: Unbiased News (1,500+ users): Designed & developed a web and mobile app that uses **deep learning neural networks** to automatically analyze news article sentiment and bias for globally trending news articles
Tech: TensorFlow, NLTK, React Native, Flask, MySQL, Docker

Eatery: Cornell Dining (8,000+ users): Worked as a backend developer on a team of 5 to add new features and maintain Eatery, used by over half of Cornell's undergraduate population get information on local restaurant & dining hall menus and schedules. *Tech: Django, PostGreSQL & SQLAlchemy, Docker*