SAMVEG SHAH

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Education

University of Massachusetts Amherst   **2023 − 2025**
Master of Science Computer Science, Incoming Fall 2023 student   *Amherst, MA, USA*

Sardar Patel Institute of Technology   **2019 − 2023**
Bachelor of Engineering, Computer Engineering, CGPA : 9.63/10   *Mumbai, Maharashtra*

Technical Skills

Languages	C, C++, Python, JavaScript, SQL, Java
Technologies	Django, TensorFlow, Keras, Flask, Node JS, HTML, CSS, React JS, Express JS, Flask, PyTorch, Flutter

Work History

Colgate Palmolive   **Jan 2022 − July 2022**
Data Engineer Intern   *Mumbai, India*

- Led migration of over 20 critical table from legacy SAP systems to Snowflake, contributing to data modernization.
- Planned the architecture, developed, and deployed a data consistency tool that compared data from SAP systems and the cloud, generating reports to identify missing data, reducing time for verification from 10 hours to 5 minutes.
- Programmed a React application, enabling quick onboarding and cultural integration for 300+ new joiners every year.
- Engineered an NLP-powered chatbot integrated into an application to enhance onboarding experience for new joiners.

Xu Labs (Carnegie Mellon University)   **March 2022 − Feb 2023**
Research Intern   *PA, USA (Remote)*

- Executed expert preprocessing techniques and augmentations to a dataset of 30 videos, resulting in a substantial 80% increase in data volume. Achieved 96% precision in extracting the region of interest using Yolo V7 and Yolo V7x models
- Developed a deep learning model with an accuracy of 88% based on future frame reconstruction and optimized the accuracy through iterative improvements. Leveraged Keras, TensorFlow, PyTorch, and other deep learning libraries.
- Drafted a chapter on particle picking and ultrastructure detection in an upcoming book on Electron Cryotomography.

Blue Brats   **June 2021 − Aug 2021**
Software Developer Engineer Intern   *Mumbai (On Site)*

- Resolved existing loopholes in a Flutter-based OTT platform for regional movies. Integrated Apple Pay for iOS payments and PayU for Android payments. Implemented the rental feature, empowering users to conveniently rent movies.
- Published the application on both the App Store and Play Store, achieving over 10,000 downloads within a year.

Projects

Vrutti | *Flutter, PyTorch, Tensorflow, Flask* [**Link**]

- Spearheaded the development of a **Flutter** application for illiterate farmers with **an NLP-based voice assistant** to address farmers' doubts and improve crop yield in their regional languages. Supports over 20+ regional languages.
- **Built, trained** and **tested** a Convolutional Neural Network to **predict** 39 plant diseases using leaf photos. Achieved an accuracy of 97.45%. Explored multiple methods such as RCNN, RFCN, and SSD.
- **Co-authored** and **published** a research paper for the project in IEEE Conference. [**Link**]

Drive Safe | *Flutter, NodeJS, Python, Pytorch, Tensorflow* [**Link**]

- Created a road safety app using **Flutter, NodeJS, and Python** to reduce annual accidents. Implemented drowsiness detection using **eye-mouth ratio analysis** with an accuracy of 95%. Programmed a model for distracted driver detection.
- Utilized an illuminant invariant lane recognition method based on **Lab color space**, employing techniques such as cubic interpolation, inverse perspective projection, and **RANSAC curve fitting** to accurately identify and track lane lines.
- Trained YOLO V7 model to detect obstacles, including cars, poles, and pedestrians on the road, achieving 93% accuracy

NGO Food Portal | *HTML, CSS, JS, Django, SQLite, Git* [**Link**]

- Created a website linking restaurants with excess food to NGOs in 30+ Indian cities, enabling seamless food donation.
- Executed **GPS system for real-time notifications** and tracking, reducing alert - delivery time by 40%.

Leadership / Volunteering

Head of Technology | Rotaract'21

- Engaged in fundraising and community-driven initiatives and also built the club's website fostering effective communication and outreach within the community.[**Link**]