Vrushabh Deogirikar

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Education

Master of Science — **Santa Clara University, US** — **09/2023 - 03/2025**

- Major in Computer Science and Engineering | GPA: 3.83
- Coursework: Distributed Systems, Machine Learning, Operating Systems, Computer Architecture, Software Engineering

Bachelor of Engineering — **Pune University, India** — **08/2016 - 08/2020**

- Major in Computer Science | GPA: 3.43
- Coursework: Cloud Computing, Data Structures, Object Oriented Programming, Computer Networks

Skills

- Java | Python | C++| C# | JavaScript | React | Node | CSS | Flutter | Dart | SwiftUI | Shell Scripting | SQL
- Frontend | Backend | Full-Stack | OOP | Flask | RESTful API | Postman | Jira | Agile
- Cloud Computing | Git | Linux | Amazon Web Services | Docker | Kubernetes | Jenkins | Automation

Experience

Software Development Intern — **Geenuity, USA** — **06/2024 - Present**

- Researched Nixtla TimeGPT, NeuralForecast, and AWS Forecast to integrate time forecasting functionality in Geenuity's AI agent.
- Developed RESTful APIs with Python using FastAPI and containerized the app on Docker. Tested APIs with Postman.
- Designed interactive user interface using Bubble, incorporating charts for visualizing time forecast API response data in JSON.
- Integrated LLMs using Flowise to develop an autonomous AI agent, capable of executing diverse tasks and optimizing content delivery.

Research Assistant — **Imaginarium Lab, USA** — **01/2024 - Present**

- Developed a solution using FisheyeViT to convert 2D fisheye images into 3D heatmaps, enabling accurate egocentric 3D pose estimation.
- Built a reusable Android/iOS TikTok clone app with Flutter SDK for research on sludge video content, featuring facial data recording, user interaction data capture, and integrated gaze tracking using Python to record pupil coordinates.
- Performed comprehensive data analysis using SPSS on app-recorded and Qualtrics data, including covariance analysis, t-tests for significance, and principal component analysis, and visualized results with Python.
- Created an immersive VR escape room game using Unity 3D engine and C++, incorporating advanced gameplay elements such as grabbable and destructible objects, sockets, puzzles, and teleportation.

Software Developer — **Farmia Agricon LLP, India** — **04/2023 - 08/2023**

- Engineered a VGG19-based deep learning model using Keras and TensorFlow for accurate classification of plant diseases from images.
- Implemented image preprocessing and data augmentation strategies, and transfer learning techniques to enhance model performance.
- Fine-tuned model through early stopping and model checkpointing, achieving high accuracy in disease classification.

Software Developer — **Birlasoft, India** — **10/2020 - 01/2023**

- Promoted to MES Consultant within 18 months. Took over maintenance of NoMuda VisualFactory implemented for Proterra.
- Collaborated closely with the development team for debugging and resolving high priority issues in an agile setting.
- Completed Piston Protrusion Management System project for Cummins India Ltd., replaced old system with a new Ignition software.
- Developed SCADA HMI screens and PLC programs for building management system, chiller plant, air handler unit for Entegris.
- Curated proof of concepts for manufacturing plant on Ignition platform scripted in Python and live PLC data.

Projects

- **Distributed Message Broker:** A robust publisher/subscriber model featuring fault tolerance and health monitoring through distributed brokers, data replication, multi-threading, and heartbeat protocol. (Python, Flask, AWS EC2, Linux) **(06/2024)**
- **SCU Web Server:** Developed a multi-threaded web server with client-server architecture supporting HTTP/1.0 and HTTP/1.1, with socket programming, error handling, and file delivery from document root. (C++, HTML, CSS) **(04/2024)**
- **Traffic Sign Recognition:** Built CNN models using Sequential and VGG19 architectures, achieving 98% accuracy in classifying traffic signs using both approaches. (TensorFlow, Keras, OpenCV) **(02/2024)**
- **Hierarchical Process Tree Simulation using C++:** Simulated a process tree using fork() and wait() system calls, with error handling and process synchronization **(03/2024)**
- **Netflix iOS App:** Features include dynamic movie content updates, trailer playback, trending movies. (SwiftUI, UIToolkit) **(09/2023)**

Leadership & Volunteering Experience

Mobile App Developer — **SCU Frugal Innovation Hub, USA** — **01/2024 - 06/2024**

- Steered the end-to-end development of a bilingual math app assisting Hispanic children overcome language barriers.
- Conducted requirement analysis, designed Figma prototypes, and developed the app using Flutter SDK, Dart for Android/iOS.
- Planned tasks, estimated efforts, and assigned responsibilities to team members, ensuring efficient workflow and timely delivery.