

Pritul Dave

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EDUCATION

Master of Science (MS), Computer Science

Jan 2023 – Dec 2024 (*expected*)

The University of Texas at Dallas

Bachelor of Technology (B.Tech), Computer Science and Engineering

June 2017 – May 2021

Charotar University of Science and Technology

- Awarded the CHARUSAT Research paper Award for year 2021

WORK EXPERIENCE

Software Developer, Maruti Techlabs Pvt. Ltd.

Nov 2021 – Aug 2022

Automotive Company: A Web Application Estimating Vehicle Valuation

- Augmented valuation accuracy to 75% through stacked ensemble, with regression score of 0.98 and Aio-HTTP integration.
- Reduced model loading time to under 60 secs with Monostate/Singleton design patterns enhancing user experience.
- Accelerated data processing speed from 3 days to 4 hours for 50 million records through Asynchronous I/O.

Research Associate Intern, Indian Space Research Organization (ISRO)

Jan 2021 – Aug 2021

Meteorological & Oceanographic Centre: Nowcasting Sea Level Anomaly & Oil Spill Tracking WebAPP

- Increased nowcasting accuracy from 75% to 89% with ML-based AutoEncoders and Attention mechanism.
- Analyzed oil spill movement, gained insights from wind direction maps, and established remote testing with Docker/bash.
- Expedited data processing time to under 40 seconds through multi-threading.

Software Developer Intern, Awto.ai

May 2020 – June 2020

Parking & Mobility Platform: Smart Parking System & Empty Slots Search App

- Reduced vehicle counting processing time by 50 seconds through streamlining the process with GluonCV-YOLOv3.
- Achieved 90% error rate reduction through a semi-autonomous vision algorithm for searching & recommending empty slots.
- Speeded up parking slot's data sharing between mobile devices and the server through the MongoDB Atlas and Rest API.

Software Developer Intern, Military College of Telecom & Engineering

Dec 2019 – July 2020

AI-Powered Smart Surveillance System: Real-time intruder tracking and firearms detection APP

- Enhanced image processing speed to 0.56 seconds through a foreground-background subtraction and Signal-to-Noise ratio.
- Improved object tracking performance by implementing a customized movement history algorithm with 15-second interval.
- Devised a unique image similarity algorithm to ensure database entries are one-of-a-kind and free from redundancies.

Software Developer Intern, Volansys Technologies (An ACL Digital) - LLC

June 2018 – July 2018

Real Time Communication Platform: Chat APP for Efficient User Interaction

- Designed and integrated support for multi-user groups with a latency of less than 100 milliseconds.
- Enabled seamless sharing of multiple .txt files in the chat application.
- Addressed deadlocks and zombie processes to enhance the stability and reliability of the application.

PROJECTS

Next-Gen Smart Traffic System (peerj.com/articles/cs-586/)

- Computer Vision & Machine Learning Approach using YOLOv4 and XGBoost to Reduce Cross-Road Waiting Time by 32%.
- Published in Peerj Computer Science Journal with 4+ Citations.

Face Mask Detection & Social Distancing APP (github.com/pritul2/yolov5_FaceMask)

- Trained an Xception CNN and employed ultra-light face detection model over 714 images and achieving 85% accuracy.
- Established and executed a centroid-based YOLO object tracking system for detecting social distancing violations.

Autonomous Drone Controller (github.com/pritul2/PID-drone-controller)

- Developed and implemented a PID algorithm with an average error rate of 10% to improve drone control and stability.
- Captured and processed drone axis data from the V-REP simulator, as well as images from an image localization sensor.

TECHNICAL SKILLS

Programming Languages: Python, Java, C, C++, JavaScript, Matlab, R

Databases: MySQL, SQLite, MongoDB, Elasticsearch, Firebase

Cloud Platforms: Google Cloud, AWS Cloud

DevOps Tools: git, Docker, Ansible

Web Frameworks: AioHTTP, Flask, Django

ACHIEVEMENTS

- Achieved Rank 10th among 7500+ in Spotle AI-thon.
- Awarded a Gold Medal at Maker Fest MS University Vadodara, among 150+ participants.
- 2nd runner up out of 200+ participants in the BOLT IoT-ML Innovation Challenge.