Pritul Dave

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EDUCATION

Master of Science (MS), Computer Science — Jan 2023 – Dec 2024
The University of Texas at Dallas — GPA: 3.44/4.00

Bachelor of Technology (B.Tech), Computer Science and Engineering — June 2017 – May 2021
Charotar University of Science and Technology — GPA: 3.61/4.00

WORK EXPERIENCE

Student Web Developer, The University of Texas at Dallas — May 2023 – present
Erik Jonsson School: UT Dallas Engineering Site Development & Maintenance [engineering.utdallas.edu]
- Responsible for maintaining and updating web pages for faculty and staff, including profile pages for 6 departments.
- Developed 30 pages of the Annual Report into a fully functional website using HTML, CSS, JS, and Divi Builder within 3 days.
- Worked in an Agile environment, participating in sprint planning, backlog grooming, and daily stand-up meetings.

Data Science Engineer, Maruti Techlabs Pvt. Ltd. — Nov 2021 – Aug 2022
Car Dealer Client: Projecting Vehicles Sales using Machine Learning
- Improved accuracy from 55% to 75% with stacked ensemble and Gaussian-based data smoothing, achieving r2 score 0.98.
- Reduced model loading time to under 60 seconds by using Monostate/Singleton design patterns and improved performance.
- Used asynchronous coroutines to smoothen 50 million records of data in 4 hours, reducing it from an estimated 3-day process.
- Performed Unit testing and Integration testing using PyTest modules and developed CI/CD pipelines using Azure Pipelines.

Research Associate Intern, Indian Space Research Organization (ISRO) — Jan 2021 – Aug 2021
Meteorological & Oceanographic Centre: Nowcasting Sea Level Anomaly & Oil Spill Tracking WebAPP
- Utilized Mapbox and JS to map wind speed and direction features, generating Quiver plots for analyzing oil spills movement.
- Improved prediction accuracy from 75% to 89% with ML-based Autoencoders and Attention Mechanism over satellite data.
- Enhanced website responsiveness by reducing data processing time from 60 to 40 seconds through parallelizing code.

Software Engineer Intern, Military College of Telecommunication & Engineering — Dec 2019 – July 2020
Smart Surveillance System: Real-time intruder tracking and firearms detection APP in Python
- Created RESTful API with Django for real-time data streaming and storage in SQL server, leading to a 40% faster data retrieval.
- Expedited image processing to 0.56 seconds through a foreground-background subtraction coupled with Signal-to-Noise ratio.
- Fixed a critical bug in one of their existing object-tracking applications that helps the object tracker in relocating lost objects.
- Designed a unique image similarity algorithm using Python to ensure database entries are unique and free from redundancies.

Software Engineer Intern, Volansys Technologies (An ACL Digital) - LLC — June 2018 – July 2018
Linux based Real Time Communication Platform: Chat Application in C++ 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 8+ citations.

Code Quality Enhancement and Change Request Analysis in Java based Mango M2M & PDFedit Software (github.com/pritul2/MangoTeam17) (github.com/pritul2/jEditTeam17)
- Conducted an analysis of 6 Java based code smells and refactored the codebase by applying appropriate design patterns.
- Incorporated a total of 3 change requests, addressing specific requirements, and ensuring accurate implementation.

Encrypted File System in Java (github.com/pritul2/Encrypted-File-System-EFS-)
- Implemented AES and SHA-256 encryption algorithms to secure user metadata and file system in Java.
- Developed a disc-block based storage and retrieval method for optimized encryption and decryption processes.

TECHNICAL SKILLS

Programming Languages: Python, Java, JavaScript, C, C++
Databases: MySQL, MSSQL, MongoDB, Firebase
Cloud Platforms: Google Cloud, Microsoft Azure, AWS Cloud
DevOps Tools: git, Docker, Ansible
Web Frameworks: AioHTTP, Flask, Django, React, Node.js
Other Technologies: Pandas, Scikit-Learn, Bootstrap, OpenCV, Keras, Selenium, ElasticSearch, Redis, Matplotlib, Apache Airflow
Certifications: Microsoft Azure Fundamentals (AZ-900)