DHRUVRAJSINH VAGHELA

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Education

Vellore institute of Technology Bhopal, India **2022 - 2026**
- CGPA: **8.62** (expected)

KD Ambani Reliance Foundation School, India **2022 - 2021**
- *CBSE (**Class XII**), Aggregate: **72.2%***

KD Ambani Reliance Foundation School, India **2019 - 2020**
- *CBSE (**Class X**), Aggregate: **90.6%***

Skills

Programming & Frameworks: C++, Python, Node.js, React.js, Go, Gin, PyTorch, TensorFlow
Databases: MySQL, PostgreSQL
Web Development: HTML, CSS, Tailwind
Tools & Others: Git, Version Control Tools
Core Subjects: Operating System, Database Management System, Computer Networks, OOPs, Data Structures & Algorithms

Work Experience

JIO Platforms | *2-months Internship*
- Internship in Application of Video Analytics for Object Detection.
- Made a project on **Seat Occupancy Detection System** using YOLOv5 to monitor and track the usage of chairs in a Shared Office Setup.
- Processes video frames to detect "person" and "chair" objects, using bounding boxes to determine occupancy by checking overlaps between detected chairs and people.
- Each chair is uniquely identified and tracked, with its occupancy status displayed in real-time on the video.
- The system calculates the duration each chair is occupied, updating the total usage time whenever a person leaves the chair.

Projects

Caffiend
- Developed a dynamic coffee shop landing page using React.js, featuring an interactive UI to showcase menu items, promotions, and store information.
- Implemented state management with React Hooks to handle user interactions, such as cart previews and item selection.
- Designed a responsive, visually engaging interface using HTML, CSS, and Tailwind CSS, ensuring seamless usability across devices.
- Incorporated performance optimizations (e.g., lazy loading, modular components) for fast load times and smooth navigation.
- Focused on clean, maintainable code with reusable components to streamline future updates or feature additions.

Simple Bank - Banking System
- Designed and implemented a secure banking system using Go (Gin framework) with PostgreSQL as the database.
- Developed RESTful APIs for account management, transactions, and user authentication with JWT.
- Integrated GORM for ORM functionality and database migrations for schema versioning.
- Ensured high test coverage using unit and integration tests with GoMock and test containers.
- Implemented CI/CD pipeline using GitHub Actions and Docker for automated testing and deployment.
- Optimized database queries and application performance to handle high-concurrency operations.

Real-time Anti-Spoofing Liveness Detection
- Developed an end-to-end deep learning system for real-time liveness detection to prevent identity spoofing attacks.
- Architected and implemented a CNN-LSTM model in PyTorch/TensorFlow to analyse spatial and temporal features from video streams, effectively distinguishing between live subjects and static photo/video replays.
- Curated and pre-processed a custom video dataset of real and spoof scenarios, utilizing OpenCV and MTCNN for automated face detection and data normalization.
- Deployed the trained model in a real-time application using OpenCV, providing instantaneous visual feedback for liveness verification from a live webcam feed.

Academic and Extracurricular Achievements

- The Bits and Bytes of Computer Networking- Google
- Cloud Computing- NPTEL
- Marketing Analytics- NPTEL