VATS PATEL

Ahmedabad, Gujarat, 380015

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Education

School of Engineering and Applied Sciences, Ahmedabad University	**August 2021 – May 2025**
Bachelors of Technology in Computer Science and Enginerring - GPA: 3.1/4 (Current)	*Ahmedabad, GJ*

Relevant Coursework

- Data Structures
- Algorithms
- Signals and Systems
- Digital Design
- DBMS
- Discrete Maths
- Design & Analysis of Algorithms
- Operating Systems
- Machine Learning
- Computer Vision
- Blockchain

Projects

Decentralized Exchange (Uniswap) | March 2024 🌐

- Built a decentralized exchange using the AMM concept, inspired by Uniswap V1, with custom tokens for testing and Metamask for transactions.
- Deployed the DApp on Polygon Amoy testnet; open-sourced contracts and code on GitHub, and hosted the platform online.

Skills: Solidity, RemixIDE, Metamask, Web3 UI, Polygon, GitHub.

Gemini - AI Assistant | August 2024 🌐

- Developed a Gemini clone in React.js, replicating key features for a smooth, responsive user experience, utilizing React hooks for efficient state management and performance optimization.
- Integrated APIs for real-time trading and dynamic market data, focusing on modular components to enhance maintainability and scalability.

Skills: React.js, JavaScript, APIs, Frontend Development, State Management.

Driver Classification Based on Driving Patterns | March 2024

- Developed an unsupervised learning strategy to classify drivers based on driving behaviors using time-series data analysis, employing KMeans clustering and KNN algorithms.
- Analyzed driving characteristics such as velocity, warning signs, and crash anticipation, conducting data preprocessing and feature engineering to improve dataset accuracy, with applications in road safety and traffic management.

Skills: Python, Time-Series Data Analysis, KMeans Clustering, K Nearest Neighbors (KNN), Feature Engineering, Data Preprocessing.

Road Markings Detection and Road Measurement in Aerial Imagery | March 2024

- Developed a deep learning model using UNet and ResNet-50 to detect road markings in aerial imagery, leveraging pre-trained ImageNet weights for improved segmentation accuracy.
- Implemented patch-based data preprocessing to optimize model training efficiency.

Skills: Deep Learning, UNet, ResNet-50, Image Segmentation, ImageNet, Data Preprocessing, Python.

Cancer Probability Estimation | April 2023

- Developed a Cancer Probability Estimation System on Google Colab with Python, performing a comparative analysis between Gaussian Naive Bayes and a Randomized Algorithm.

Skills: Python, Google Colab, Gaussian Naive Bayes, Randomized Algorithms, Data Analysis.

Skills

Languages	Python, C, C++, Java, HTML, CSS, JavaScript
Frameworks	React
Tools	Python IDLE, Apache NetBeans, Dev C++, Google Colab Notebook, VS Code, IntelliJ IDEA
Platforms	Windows, Web
Communication	Public Speaking, Writing, Known languages - English, Hindi, Gujarati, French, Japanese

Extra Curricular Activities

Sponsorship Team Member at Ingenium   *2022*

- Did Interaction and meetings with various business owners in different fields and successfully landed some of them for the sponsorship.

Peer Tutor for Language Lab - COM 109   *Monsoon Semester 2022*

- Assumed the role of a peer tutor for the Language Lab during the monsoon semester of 2022, assisting fellow students in their language learning endeavors.

Work Experience - Internship

Web Development Internship at Acmegrade in assocaition with IIT BOMBAY   *Jan 2024*

- Proficient in HTML, CSS, and JavaScript

- Hands-on experience with modern frontend frameworks (e.g., React)

- Responsive web design and cross-browser compatibility

- Knowledge of UI/UX principles and best practices

Certifications

AWS Academy Graduate   *July 2022*

- Successfully completed *AWS Academy Cloud Foundation Course.*

- Proficient in cloud computing principles, AWS services, and infrastructure management.

- Skilled in designing and deploying cloud-based solutions, improving problem-solving capabilities.

- Utilized AWS Academy training to stay updated with modern IT practices and industry trends.

- Learnt: EC2 - Lambda - Lightsail - ECR - Current AWS Customers - Elastic Load Balancing

Machine Learning Specialization - Standford University - Ongoing   *July - September 2024*

- Covers fundamental concepts of machine learning.

- Topics include supervised and unsupervised learning, deep learning, NLP, and computer vision.

- Hands-on projects for practical application of machine learning algorithms.

Volunteer

- **Khoj Museum**   *January 2022*
  I collaborated with underprivileged children residing in a slum area to produce a brief film aimed at raising awareness about the importance of conserving water