Ayush Dodia

(732) 619-6590 | ayushdrn@gmail.com | linkedin.com/in/ayush-dodia | github.com/Ayushhh26

Education

Rutgers University — New Brunswick, NJ
Master of Science in Computer Science — *Aug. 2024 – May 2026*

Thadomal Shahani Engineering College, University of Mumbai — Mumbai, India
Bachelor of Engineering in Computer Engineering ***9.11/10 CGPA*** — *Aug. 2020 – June 2024*

Technical Skills

Languages: Python, Java, JavaScript, C++, HTML/CSS, SQL, PHP, R
Frameworks: React, Node.js, TensorFlow, Next.js, Flask, Gradio, Android Studio, Material-UI, FastAPI
Developer Tools: Git, Firebase, MongoDB, AWS (Lambda, EC2), Docker, JIRA
Libraries: NumPy, PIL, scikit-learn, Pandas, ML-kit, NLTK, TextBlob, Matplotlib

Projects

FlameBot: Grid Escape | *Python, Tkinter, OOP, Algorithms* — Oct 2024 – Dec 2024

- Simulated 4 bot strategies to navigate a 40x40 evolving grid environment with fire spread, achieving over 85% success rate in reaching a safe goal across 1000+ simulations.
- Implemented a fire propagation model with adjustable flammability factors, reducing failure rates by 20%.
- Enhanced real-time bot navigation efficiency using probabilistic modeling to account for blocked cells and fire spread, reducing average pathfinding time by 25%.

FinnTrack | *NextJs, CSS, Firebase, Google Authentication*| **Live Demo** — Feb 2023 – Apr 2023

- A responsive web-app with a focus on personal financial management, allowing users to store and track their expenses.
- Designed the web-app using NextJs and CSS for front-end and Firebase database to manage data and storage.
- Used Google authentication for security and integrity of users. Custom visualization for users as per the type of income and expense.

Pro-Solver App | *Android Studio, Java, Wolfram Alpha API, ML-kit, Firebase* — Aug 2021 – Nov 2021

- A comprehensive mobile application for solving mathematics and physics problems, including various features with user-friendly interaction.
- Utilized Android Studio and Java for development of the app and integrated Wolfram Alpha API for complex problems.
- Implemented Optical Character Recognition (OCR) using ML-kit for seamless question scan and upload.
- Used Firebase for data storage and introduced a unique feature to save personalized formulae, as per individual requirements.

Forgery Guard | *Python, TensorFlow, Custom CNN, Gradio, PIL, NumPy* — Aug 2023 – April 2024

- Led a team of 4 and developed a CNN-based tool for detecting image forgeries with 91.32% accuracy.
- Implemented Error Level Analysis (ELA) for pre-processing images.
- Created a custom 8 layer model architecture and trained it on 1,600 images.
- Integrated with Gradio for a user-friendly interface and real-time analysis

Traffic Hotspot Detection | *Python, Tweepy API, NLP, K-means, Data Studio* — Aug 2022- Dec 2022

- A real time map which shows traffic hotspots in Mumbai. Employed Tweepy API to retrieve tweets from Mumbai Traffic Police (MTP), ensuring real-time and relevant data.
- Cleaned the data and applied NLP technique (NER) to extract names of location from the tweets.
- Utilized K-means clustering Algorithm to uncover patterns from frequencies of location and visualized the processed data using Data Studio, employing bubble plot across the map of Mumbai.

Achievements

- **Secured 2nd runner-up position** among 100 teams in an inter-college Hackathon (CodeTantra).
- **Achieved a position among the top 10 teams** out of 120 in an inter-college Hackathon (Codeissance).
- **Certifications:** Google Data Analytics by Coursera, Web Development for Everyone (HTML, CSS, JavaScript) by University of Michigan on Coursera, and Introduction to Machine Learning by GeeksForGeeks.