Mrunmayee Phadtare

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Education

Vellore Institute of Technology, Bhopal — 2022-2026
B.Tech CSE with specialization in Health Informatics — CGPA:**8.90**

Technical Skills

- **Languages: Python, Java, C++, TypeScript, JavaScript**
- **Frontend: React.js, Next.js (learning), HTML, CSS, Tailwind CSS**
- **Backend: Flask, Node.js, Express.js, REST APIs, JWT Authentication**
- **Databases: MongoDB, MySQL, SQLite**
- **Tools: Git, VS Code**
- **Architecture: MVC, Microservices, Scalable & Responsive Systems**

Projects

DataCleanser – Full-Stack Data Cleaning Web App | *2025*

- Developed a dynamic CSV data inspection and transformation platform using **React (TypeScript)** and **Flask**.
- Engineered **RESTful APIs** with **Pandas** for efficient data parsing, statistical analysis, and missing value imputation.
- Implemented robust **JWT-based authentication** with token blacklisting and session management to secure user data.
- Designed a clean, responsive UI with **Bootstrap**, adhering to scalable **MVC architecture** principles.

PhishNet – Real-Time Phishing Website Detection | *2024*

- Delivered a phishing detection system leveraging **Flask REST API** and a custom **HTML/CSS/JavaScript** frontend.
- Constructed a real-time URL prediction pipeline powered by **XGBoost ML models**, achieving high detection accuracy.
- Modularized **feature extraction**, **ML logic**, and frontend components to ensure **maintainability** and **scalability**.

StockSense – AI-Powered Stock Trading App | *2025*

- Built an interactive financial dashboard with **React.js**, **Node.js**, **MongoDB**, and **Tailwind CSS** to deliver stock insights.
- Integrated **WebSockets** for low-latency live market data streaming and implemented **RESTful APIs** to handle transactions and user authentication.
- Applied **time-series forecasting algorithms** for price trend prediction and generated buy/sell signals using historical data analysis.
- Developed portfolio tracking, sentiment analysis from news APIs, and designed a modular **microservices architecture** to facilitate **CI/CD readiness** and **horizontal scaling**.

Alzheimer's Disease Detection Using Multimodal Deep Learning | *2025*

- Engineered an interpretable CNN using **Inception-ResNet50** to classify Alzheimer's disease stages from MRI and PET scans, attaining >95% accuracy and AUC >0.98.
- Employed **Grad-CAM** and **LIME** techniques to produce clinically interpretable saliency maps, pinpointing critical biomarkers.
- Executed advanced neuroimage preprocessing with **SPM12** and **Voxel-Based Morphometry (VBM)**, enabling precise spatial normalization and tissue segmentation for volumetric analysis.

Certifications

- IBM Generative AI | IBM (2025)
- Artificial Intelligence | IIT Madras (2024)
- Web Development (HTML/CSS/JS) | Johns Hopkins University (2023)