Amol Tripathi

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Technical Skills

Programming Languages: Python, C++, C

Machine Learning & AI: Supervised Learning, Unsupervised Learning, Deep Learning, Neural Networks, Support Vector Machine (SVM), Natural Language Processing (NLP), Numpy, Pandas, PyTorch, OpenCV (for Computer Vision), Matplotlib & Seaborn (for visualization)

Web Development: HTML5, CSS, JavaScript, Express, Node.js, MySQL, MongoDB, Bootstrap, APIs, Postman

Tools & Platforms: Jupyter, Git, VS Code, Visual Studio, MongoDB Compass, Meta Mask

Version Control: Git, GitHub

Soft Skills: Led cross-functional teams, met tight project deadlines, and effectively communicated complex technical concepts.

Education

VIT Bhopal University VIT, Bhopal
B.Tech in Computer Science | CGPA: 8.33 *June 2022 – June 2026*

Work Experience

Project Group Lead VIT Bhopal
Sep2023 - Feb2025

- Led a team of 10 to develop a machine learning model that reduced misclassification rates by 15% and advanced diagnostic efficiency.
- Augmented project delivery by 20% through efficient team coordination, sprint planning, and task automation.
- Reduced model training time by 30% by optimizing data pipeline and feature selection, enhancing deployment efficiency.
- Increased dataset processing speed by 40% by leveraging parallel computing and batch processing techniques.

Projects

AI-Powered Sentiment Analysis and Tweet Fetching Engine Jan2025 - Feb 2025
Machine Learning Project *Python,TextBlob,Tweepy,Twitter API v2,NLP,Sentiment Analysis*

- Developed an AI-powered sentiment analysis engine using Python, Tweepy, and TextBlob, processing 10K+ tweets
- Integrated Twitter API to fetch tweets in real-time, reducing manual data collection time by 40%.
- Refined sentiment classification accuracy from 50% to 60% using TextBlob's polarity scoring and data preprocessing.
- Built a CLI tool for sentiment monitoring, increasing analysis efficiency by 35% and enabling real-time insights.

AI-Powered Breast Cancer Detection Using Support Vector Machine (SVM) Jan 2023
Machine Learning Project *Scikit-learn,Normalization,Model Optimization*

- Developed an SVM-based breast cancer detection model with 97% accuracy on the Wisconsin Dataset, improving diagnostic reliability by 15%.
- Applied normalization and feature scaling, reducing data processing time by 25% and enhancing model consistency.
- Optimized hyperparameters (C, Gamma) using grid search, increasing accuracy from 96% to 97%, reducing false negatives by 10%.
- Devised testing frameworks that integrated cross-validation and F1-score assessments, achieving a 20% increase in model robustness, and establishing best practices that became standard for future machine learning projects.

Certifications

- Practice Predictive Analysis, Build an AI Powered Breast Cancer Detection Engine - FutureSkills Prime Virtual Lab Course
- Google: The Bits and Bytes of Computer Networking - Coursera
- IIT, Kharagpur Cloud Computing - NPTEL
- Intro to Machine Learning - Kaggle
- Intermediate Machine Learning - Kaggle