B PURUSHOTHAM

Bengaluru, KA | purushothambollepalli01@gmail.com | +91-8464971133 | Linkedin | Github | Portfolio

PROFESSIONAL SUMMARY

Aspiring Data Science and AI-ML Engineer skilled in Python, Machine Learning, Data Analysis, and Computer Vision. Strong foundation in statistics, data preprocessing, model development, and evaluation. Adept at building scalable solutions using Python libraries and modern ML tools, with a passion for solving real-world problems through data-driven insights.

SKILLS

Programming: Python, JavaScript, C++
Machine Learning / AI: scikit-learn, NumPy, Pandas, Matplotlib, Seaborn, OpenCV, TensorFlow, Deep Learning
Data Science: EDA, Feature Engineering, Model Training & Evaluation, Data Preprocessing, Visualization
Tools: Git, VS Code, Jupyter Notebook, Google Colab, MySQL, SQLite, Streamlit
Core Competencies: DSA, OOPS, API Integration, Problem Solving

EXPERIENCE

Next24tech Technology & Services Jul 2024 – Aug 2024
Machine Learning Intern

- Developed a road lane line detection system using Python, OpenCV, and classical machine learning concepts.
- Built an image processing pipeline with grayscale conversion, Gaussian blur, Canny edge detection, and region-of-interest masking for reliable lane feature extraction.
- Applied Hough Line Transform and polynomial fitting to detect, stabilize, and track lane boundaries across video frames.
- Implemented feature-based filtering to reduce noise from shadows and road textures, and documented challenges, performance insights, and potential deep-learning improvements.

PROJECTS

Sign2Text – Real-Time Hand Gesture & Sign Language Detection

(Python, Flask, MediaPipe, OpenCV, scikit-learn)

- Trained a Random Forest classifier on 1,000+ custom hand gesture samples, achieving 90%+ accuracy for defined gesture classes.
- Enabled real-time inference at 20+ FPS using MediaPipe for fast landmark extraction.
- Integrated Socket.IO to stream video frames with sub-200ms latency, enabling smooth gesture-to-text conversion.
- Built a custom data pipeline that reduced preprocessing time by ~30%, improving overall responsiveness.

Handwritten Digit Recognition using Neural Network

(Python, NumPy, Pandas, scikit-learn, TensorFlow, Matplotlib)

- Trained a dense neural network on 42,000+ MNIST samples, covering 10 handwritten digit classes.
- Achieved 95%+ validation accuracy across 10 training epochs using ReLU and Softmax activations.
- Reduced training loss consistently through normalization, one-hot encoding, and optimized batch processing.
- Visualized model predictions and misclassified samples to identify key improvement areas.

EDUCATION

Sreenivasa Institute of Technology and Management Studies, Chittoor **2021 – 2025 | CGPA: 8.13**
B.Tech in Computer Science and Engineering (AIML)

Narayana Junior College, Tirupati **2019 – 2021 | 95.3%**
Intermediate MPC (Mathematics, Physics, Chemistry)

CERTIFICATIONS

Kaggle – Machine Learning Certification (2025)
Python Programming — NxtWave (2024)
Data Analytics Job Simulation — Deloitte Australia (Forage), Apr 2025
Introduction to Databases — NxtWave, Jul 2024