# SUJAN V

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## SUMMARY

Enthusiastic Data Science student with practical experience in machine learning and foundational deep learning projects. Proficient in Python, TensorFlow/Keras, and data preprocessing workflows. I have a strong passion for problem-solving and a keen interest in exploring innovative solutions. I am committed to enhancing my skills and contributing to real-world AI or data-centric initiatives.

## TECHNICAL SKILLS

- Java(DSA)
- Python (Data Science)
- Machine Learning (Tensorflow,Pytorch)
- Model Development (FastAPI, Streamlit)
- Deep Learning (Tensorflow,Pytorch)
- Neural Networks(CNN,RNN)
- Data Analysis (Pandas, NumPy, Matplotlib)
- Computer Vision(OpenCV, Image Processing)
- NLP Basics (Tokenization, TF-IDF, Embeddings)

## PROJECTS

### VisionGuard— Real-Time Biometric Authentication

Github Link: Face_Recognition

(TechStack: Python, OpenCV,CNN, TensorFlow)

- Built a real-time face recognition system using OpenCV for detection and a CNN classifier for identity verification.
- Chose CNN architecture for its ability to capture facial features under variable lighting and angles.
- Optimized Conv2D and MaxPooling layers for stable feature extraction and low-latency inference.
- Evaluated model reliability using confusion matrices and real-time prediction tests.

### NeuroScript — Handwritten Digit Recognition

Github Link :Digit Recognition

(TechStack: Python,Keras, NeuralNetworks)

- Implemented a simple dense neural network (Flatten → Dense → Softmax) for MNIST digit classification.
- Selected this architecture as the dataset is small and well-structured, making CNNs unnecessary.
- Used ReLU activation and normalized inputs to improve learning efficiency.
- Visualized accuracyand loss curvesto monitor training behavior.

### EcoSort — Smart Waste Classification

Github Link:Smart Waste Classification

(Tech Stack: Python, CNN, Deep Learning)

- Developed a CNN model to classify recyclable vs. non-recyclable waste for smart city applications.
- Used data augmentation to improve generalization across diverse waste images.
- Optimized inference speed and model size for potential IoT deployment.
- Applied binary cross-entropy with sigmoid activation for accurate binary classification.

## EDUCATION

B.Tech —Artificial Intelligence and Data Science — GPA: 8.40/10 (In Progress)
St. Joseph's College of Engineering, Chennai

## ACHIEVEMENTS & CERTIFICATES

- Won Cash Award of 10,000 for First Price in Hack-O-Mania Hackathon
- Solved 260+ Problems in Leet-code
- Data Analysis with Python - Freecodecamp
- Python for Data Science - NPTEL
- DSA in Python - NPTEL

## LANGUAGES

- English(Fluent)
- Tamil(Fluent)