Simhaa TT

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SUMMARY

Student at SSN College of Engineering, passionate about programming, web development, and machine learning. Pursuing a B.S. in Data Science and Applications from IIT Madras. Proficient in Python, C, C++, SQL, MATLAB, and web technologies. Completed the Machine Learning Specialization by Andrew Ng and built hands-on projects including web apps and predictive models. Eager to apply coding and technical skills in practical software development and machine learning tasks.

TECHNICAL SKILLS

Programming Languages: Python, C++, SQL, MATLAB

Web Development: HTML, CSS

Tools: Git, GitHub

Libraries: NumPy, Pandas, Scikit-learn

PROJECTS

MOSIP OCR Field Extraction & Verification System Developed an end-to-end OCR and verification pipeline using PaddleOCR and FastAPI for identity documents such as Aadhaar, Driving License, Passport, and Birth/SLC certificates. Implemented document-type aware field mapping, text normalization, and fuzzy matching to verify extracted fields against applicant data, with confidence-based decision logic and MOSIP pre-registration API integration.

Face Recognition using FaceNet with INT8 Quantization for FPGA Deployment (Ongoing) Designed a CNN-based face recognition pipeline using a pretrained FaceNet model for feature extraction and a quantized linear SVM for classification. Applied INT8 quantization to enable fixed-point inference suitable for FPGA deployment. Completed model training and quantization stages, with hardware implementation using HLS/RTL currently in progress.

Vehicle Parking App — Python (Flask), HTML, CSS Designed and implemented a web-based CRUD application that allows users to book parking slots, manage reservations, and handle basic user workflows through a simple frontend and backend architecture.

Titanic Survival Prediction (Kaggle) Performed data preprocessing and feature engineering on the dataset and trained machine learning models such as Logistic Regression and Random Forest to predict passenger survival.

EXPERIENCE

Climax Products — Management Trainee Nov 2024 – Dec 2024, May 2025 – July 2025 Contributed to Manufacturing Operations, Maintenance, Product Development, Procurement, and Logistics. Developed a mini ERP system to streamline internal processes.

EDUCATION

B.E. Electrical & Electronics Engineering, 3rd Year — SSN College of Engineering, Chennai CGPA: 8.42 / 10, Expected Graduation: 2027

B.S. Data Science and Applications (Pursuing) — Indian Institute of Technology Madras (Online) CGPA: 8.87 / 10, Expected Graduation: 2027

CERTIFICATIONS

• Machine Learning Specialization — Andrew Ng (DeepLearning.AI)

• Generative AI for Everyone — DeepLearning.AI

• The C++20 Masterclass: From Fundamentals to Advanced — Daniel Gakwaya (Udemy)

• Data Analysis with Python — freeCodeCamp