Sandeep S

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EDUCATION

Easwari Engineering College(Anna University)

Chennai, India

Bachelor of Engineering - Electronics and Communication Engineering; CGPA: 8.73

2021 - 2025

Courses: Analog and Digital Circuits, Control Systems, Digital Signal Processing, VLSI Design, Medical Electronics

Indian Institute of Technology, Madras

Chennai, India

Bachelor of Science - Data Science & Applications; CGPA: 8.5

2022 - 2026

Courses: Machine Learning, Application Development, Business Data Management, Data Structures & Algorithms, Java, Linux

EXPERIENCE

Software Engineer Intern - S2T AI - AI Powered Investigations

Sept 2025 - Present

Singapore

• Role: S2T develops AI-driven digital intelligence and forensics solutions for security, defense, law enforcement, and cyber domains. Worked on LLM-based automation, MLOps and DevOps pipelines, deploying machine learning models, and managing APIs for AI-driven applications.

Teaching Assistant - Business Data Management (MS2001) - IIT Madras

Jan 2024 - Sept 2025

On Campus

• Role: Teaching Assistant for "Business Data Management" (Prof. Dr. G. Venkatesh Prof.Dr. Miland Gandhe) — TA sessions, concept clarification, student support; dataset design validation; Python and LLM automation for backend verification.

Paradox, IIT Madras

Chennai

Steering Committee

Jan 2023 - Present

• Role: The Steering Committee for Paradox'26 — overseeing the fest and serving as the Head of Financial Audits. Secretary

• Role: As Secretary of Paradox'25 I headed one of the largest student fest with a footfall of 4000+ students all across India, with 14 departments, 50+ events and over 5 Pro shows.

Project Intern - HCL Technologies Link

Jun 2023 - July 2023

Chennai

• **Project**: Developed a Course Recommendation System as part of the internship project. Utilized machine learning algorithms and data analysis techniques to create personalized course recommendations for users.

PATENTS AND PUBLICATIONS

Modeling Clinical and Radiographic Data for Early Detection and Prediction of Osteoarthritis

Published in: 2025 IEEE 14th International Conference on Communication Systems and Network Technologies (CSNT)

• Summary: Multimodal fusion of X-ray imagery and clinical data for early KOA detection and grade prediction; combines deep learning and ML to show the benefit of cross-modal integration.

KOA Prediction & Grading via Late-Fusion Model with LLM-Enhanced Insights

Indian Patent App. No. 202541071393 A — Filed: 28 Jul 2025 • Pub: 01 Aug 2025

• Summary: Late-fusion (EfficientNetB3 on X-rays + XGBoost on clinical data, weighted ensemble); LLM+RAG for interpretability and concise, patient-facing insights.

Projects

LLM-Based Automation Agent [Code]

Feb 2025 – Mar 2025

• Built and deployed a secure LLM-powered automation agent using GPT-4o-Mini for tasks like file operations, web scraping, database queries, and text processing, containerized with Docker and integrated into CI pipelines.

 $\mathbf{Python} \cdot \mathbf{FastAPI} \cdot \mathbf{OpenAI} \cdot \mathbf{Docker} \cdot \mathbf{SQLite} \cdot \mathbf{CI/CD} \ \mathbf{Pipeline}$

Crime Analysis and Prediction- Karnataka Police Hackathon [Code]

Feb 2024 - Jun 2024

• A portal with a dashboard has been developed for analyzing crime data using the state police's dataset. It integrates geospatial and behavioural analysis, identifies correlations, and employs time series analysis for predicting crime rates.

Python · Django · Google Geocoding · Pandas · Scikit-Learn · Facebook Prophet · Tableau · Folium TDS Virtual TA $[\mbox{O}\mbox{ Code}]$ May 2025 - Sept 2025

• Built an asynchronous FastAPI server as a Virtual Teaching Assistant for the Tools in Data Science course, with web scraping, Pinecone-based vector indexing, and RAG-powered QA for text and image queries.

 $Fast API \cdot Python \cdot Open AI \cdot Pinecone \cdot Web \ Scraping$

Honors and Awards

Winner — Karnataka State Police Datathon 2024 (Crime — Jun 2024 Prediction)

Winner — Solder-It; Runner-up — E- Dec 2022 Maze, Invente'22 SSN-CE

 ${\bf Runner\text{-}up}$ — Trump the Aces (Circuit Design) & Ideathon, $\mathit{Oct~2023}$ Invente'23 SSN-CE

Winner — Circuit Debugging; Runner- Oct 2022 up — DIY Electronics, Coulomb'22 REC

Runner-up — CTRL-Z, Kurukshetra'23, CEG (Anna Uni- Apr 2023 versity)