SANDESH PATIL

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PROFESSIONAL SUMMARY

AI Engineer specializing in machine learning, deep learning, and data science. Proficient in Python, PyTorch, TensorFlow, Hugging Face, NLP, and LLM fine-tuning. I build and deploy real-time solutions across healthcare, computer vision, and automation, delivering scalable, production-grade systems with measurable impact.

TECHNICAL SKILLS

- **Programming Languages**: C, Python, Java, Go Lang
- **Others**: ML, Deep Learning, RAG, LLM
- **Framework and libraries**: PyTorch, Langchain, LangGraph, TensorFlow, NumPy, Pandas, Scikit-learn, OpenCV
- **Cloud Deployment**: Docker, Kubernetes, Azure, AWS
- **Tools And Databases**: MySQL, Neo4j, Google Colab, Vector Databases, Chroma DB, Qdrant

PROFESSIONAL EXPERIENCE

Meril **Jun 2025 - Present**

AI Engineer *Bengaluru*

- Designed NLP pipelines to process patient–doctor conversational data, extract clinical entities, and generate structured prescriptions and medical reports
- Developed an AI chatbot to handle patient queries, doctor responses, and contextual follow-ups
- Applied LLM fine-tuning and evaluation frameworks to enhance decision support; partnered with clinicians to translate requirements into models.
- Implemented document classification and information extraction using open-source OCR and GLiNER, leveraging classical NLP and ML techniques without LLMs.
- Built non-LLM pipelines for government ID document processing using OCR, rule-based validation, and traditional NLP for structured data extraction.
- Technologies Used: Python, PyTorch, Hugging Face, OpenCV, Langchain, LangGraph, RAG, Vector Databases, Neo4j, NLP

Dell Technologies **Feb 2025 - Jun 2025**

Software Development Intern *Bengaluru*

- Contributed to infrastructure automation workflows using Golang and Python, focusing on scalable orchestration and deployment.
- Built and optimized containerized services with Docker and Kubernetes to streamline environment setup and rollouts.
- Collaborated on testing, debugging, and performance tuning to ensure production readiness and stability across modules.
- Improved release reliability with CI/CD and validation gates, reducing deployment failures
- Technologies Used: Golang, Python, Kubernetes, Docker

PROJECTS

AI model for predicting Tooth Resorption

- Built AI models to detect early signs of root resorption from dental imagery to aid orthodontic treatment decisions.
- Developed CNN + Random Forest pipeline with OpenCV preprocessing, improving early detection rates and reducing false negatives.
- Applied data augmentation and model tuning to increase accuracy while maintaining inference speed suitable for clinical workflows.

Sign Language Recognition

- Implemented real-time gesture classification to recognize sign language and enhance accessibility for hearing-impaired users.
- Built CNN with Transfer Learning using TensorFlow, achieving accuracy of 90% with inference latency around 45–60 ms on live video.
- Created labeled dataset with LabelImg and OpenCV pipeline, expanding training data by 1200+ to improve generalization by 18–22%.

Traffic Flow Management

- Designed ML-driven congestion detection and signal optimization using real-time feeds to reduce urban traffic delays.
- Implemented ML-based congestion detection with TensorFlow and real-time processing, reducing average wait times by 15–20% on test routes.
- Optimized signal timing strategies, decreasing congestion events by ~15% and improving throughput across monitored intersections.

EDUCATION

Dayananda Sagar University **2025**

Bachelor of Technology, CSE *Bangalore*

KLE Prerana PU College **2021**

Class XII, State Board *Hubballi*

Sri Krishnadevaraya Educational Society **2019**

Class X, State Board *Sindhanur*

CERTIFICATIONS

- NPTEL Python
- NPTEL Design and Analysis of Algorithms
- NPTEL Database Management System

ACHIEVEMENTS

- Reached the finals of the college-organized Coding Challenge, finishing among the top 2 finalists.

LANGUAGES

- English
- Kannada