

# Sandipan Paul

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## EDUCATION

### Dr. Ambedkar Institute Of Technology

Bachelor of Engineering - Electrical & Electronics; CGPA: 8.13

Bengaluru, India

Dec 2022 – Present

## EXPERIENCE

### AI/ML Intern

Strydden Technologies LLP.

Jun 2025 – Present

Ahmedabad, India — Remote

- Implemented **RAG** triage pipeline for clinical symptom matching, increasing relevant retrieval rate by **20%**.
- Built adaptive session management with **MongoDB**, reducing session-loss inactivity by **90%**.
- Integrated **WATI WhatsApp webhook** to enable triage, reducing user response time by **25%**.
- Designed a **HIPAA compliance** AI chatbot using RAG with privacy-aware constraints (no PHI storage)

### Research Assistant under Prof. Harini Vaikund

Department of EEE, Dr. AIT

Dec 2024 – Present

Bengaluru, India

- Co-authoring an AI-driven power-systems research paper; focusing on **deep-learning** validation.
- Performing end-to-end statistical data analysis and developing predictive models.

### Intern

Just Robotics

Jul 2024 – May 2025

Bengaluru, India

- Engineered an RC controller using websockets/serial communication; optimized interface latency by **30%**.
- Implemented a lightweight **Flask backend** to handle real-time control signals.

## PROJECTS

### FrameForge | Python, VideoDB, Redis | Web

Jan 2026

- Architected an autonomous AI video director that transforms long-form footage into viral social-ready clips, reducing editing time by **95%** through **multimodal** AI analysis
- Engineered a **fault-tolerant ingestion pipeline** with advanced anti-bot detection and multi-strategy fallback mechanisms using yt-dlp, achieving **90%** successful video downloads
- Implemented intelligent content moderation with automated safety filtering and virality scoring (**0-100**) using **Groq Llama 3**, ensuring brand-safe content generation.
- Deployed **serverless HLS streaming** via VideoDB with **semantic video indexing**, enabling instant playback without rendering overhead and supporting 10-minute source limits with weekly quota management.

### Observa | Python, Gradio, DVC, MLFlow, Grafana | Code

Oct 2025

- Developed an **end-to-end MLOps pipeline** integrating FastAPI, DVC, MLflow, and Grafana for **real-time NLP monitoring**
- Fine-tuned **DistilBERT** for news classification with custom tracking of inference latency and request metrics.
- Containerized workflow for observability, visualizing latency and confidence trends via **Grafana** dashboards.

### Law-Vector | Python, Flask, Pinecone, BART, Supabase | Code | Demo

Jun 2025

- Developed an AI legal doc search tool using **transformer-based vector embeddings** and Pinecone retrieval
- Implemented user **authentication** with Supabase, ensuring **90% uptime** and securing access.
- Designed a modular vector pipeline using sentence-transformers, achieving **95% retrieval precision**.
- Enabled **RAG** workflows by interfacing with the **Perplexity Sonar API**, boosting answer relevance by **25%**.

## SKILLS

**Languages:** Python, C, C++, JavaScript, HTML/CSS

**Libraries & Frameworks:** Flask, FastAPI, Streamlit, Gradio, TensorFlow, PyTorch, OpenCV, NLTK, LangChain, LangGraph, Postman, SQLModel

**Cloud/DevOps:** AWS (S3, EC2), GCP, Docker, Git, GitHub Actions, Airflow, DVC, Dagshub, Redis

**Databases:** PostgreSQL, MongoDB, SQLite, Pinecone, Qdrant, Firebase

**MLOps & Data Tools:** MLFlow, Grafana, Prometheus, Jupyter Notebook, VideoDB

## ACHIEVEMENTS

- Won the **Best Innovation** award for developing a Drone surveillance system using CV and AI (Tech Nexus 2025).
- Won the **Innovator's Edge** award for developing an interactive Braille script system (Hack Colossus 2024).