# NIKET SURJUSE

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## Education

## Government College Of Engineering, Aurangabad

2020 - 2024

B. Tech in Computer Science & Engineering

9.04/10 CGPA

HSC (XII)

2018 - 2019

SSC (X)

78.40%

2016 - 2017

95.00%

# Work Experience

### AI ML Developer

July 2024 – present

Siemens Energy

In Office

- Developed an internal GPT-4-powered QA system, reducing information retrieval time by 80% for engineering teams.
- Built the backend APIs using FastAPI and integrated CosmosDB as a vector database for RAG (Retrieval-Augmented Generation) to enhance response accuracy and context.
- Automated AWS cloud infrastructure including S3 buckets, Lambda functions, and RDS databases using AWS CDK for infrastructure as code.
- Implemented CICD pipeline using GitLab to automate deployment.
- Developed an AI solution that auto-generates comments for customer documents by fine-tuning T5, LLaMA 2, and Distilbert models, reducing manual commenting time by 90%.
- Created custom training datasets and used efficient fine-tuning techniques (LoRA, QLoRA, PEFT) to reduce compute cost and improve model performance using Azure ML Studio.
- Added evaluation steps to monitor outputs and keep model quality in check while staying within cost limits.

AI ML Intern Jan 2024 - June 2024

Siemens Energy

In Office

- Developed an automated vendor certificate validation system using Google Document AI OCR to extract chemical composition and mechanical properties from raw material certificates and compare against internal standards.
- Built an LLM-powered agent using LangChain to intelligently compare extracted values, perform unit conversions, and identify compliance discrepancies with 95%+ accuracy.
- Implemented source tracking and citation system that links each validated parameter to its exact location in the certificate, enabling quality engineers to verify AI decisions and maintain audit trails.
- Created automated reporting pipeline that generates compliance reports with highlighted deviations, reducing manual certificate review time from hours to minutes while improving accuracy.

## **Projects**

# Road Hypnosis Detection using ML

Source Code

- Built a machine learning system to detect signs of road hypnosis by analyzing driver behavior such as yawning, drowsiness, and eye blinking
- Used the dlib's 68-point facial landmark model for facial landmark detection and applied transfer learning to adapt it to driving scenarios
- Extracted facial features to identify fatigue indicators and used ML classifiers to flag signs of driver inattention or fatigue.

### AskPDF: Chat with your PDF

Source Code

- Built an intelligent PDF chat application using LangChain and OpenAI GPT models that enables natural language querying of document content with contextual understanding.
- Implemented RAG (Retrieval-Augmented Generation) pipeline with document chunking, vector embeddings using OpenAI embeddings, and semantic similarity search for accurate context retrieval.
- Developed Streamlit web interface with PDF upload, text extraction, and real-time chat functionality, processing documents up to 50+ pages.
- Integrated memory management to maintain conversation context and implemented error handling for various PDF formats and sizes.

## **Technical Skills**

Languages: Python, C/C++, Java, SQL

ML/AI: PyTorch, TensorFlow, Hugging Face, Scikit-learn, LangChain

Frameworks: FastAPI, Lang Graph, Flask, Streamlit

Cloud: AWS (S3, Lambda, RDS, CDK), Azure OpenAI, Azure ML Studio

Databases: CosmosDB, Vector databases, MongoDB Technologies: LLMs, Transformers, Agentic AI, NLP, RAG

Tools: Git, GitLab CI/CD, Docker

## Achievements

- Received STAR Award at Siemens Energy for exceptional performance on AI/ML initiatives and delivering measurable business impact
- Qualified for level 2 of Flipkart Grid 5.0 hackathon in Software Development Track and Health+ Track
- Won AAROHAN 1.0 coding competition at GECA among 100+ participants

### Certifications

- Building Toward Computer Use with Anthropic (DeepLearning.AI)
- Deep Learning Specialization (Coursera)
- Machine Learning Specialization (Coursera)
- Complete Web Development Bootcamp by Angela Yu (Udemy)