

# ANAND SAHU

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Enthusiastic and detail-oriented Engineer with honors in Artificial Intelligence and Machine Learning, seeking opportunities to apply advanced analytical and programming skills in real-world scenarios. Eager to contribute innovative solutions and leverage my expertise to address complex challenges in the field.

## Education

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**Sarvajanik College of Engineering and Technology** **2020-2024**  
Bachelor of Engineering in Electronics & Communication  
With Honors in AIML , 8.38(CGPA)

**T and TV Sarvajanik High School** **2018-2020**  
Higher Secondary , 75%

## Internships

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**Nuacem AI (Hyderabad)** **JUNE 2024 - NOVEMBER 2024**  
Machine Learning Engineer (Intern)

- Gained the insights of advance tools in machine learning helpful in real world problems.
- Here I come to know about different tools to solve Complex ML problems by leveraging the power of AI.
- Develop different kind of projects like Custom Dataset AI Chatbot, Image Information Extractor etc.

**Code Unnati** **JANUARY 2024 - APRIL 2024**  
AIML/IOT Trainee

- Gained Experience in different algorithm of Machine Learning.
- Here I come to know about the use of algorithm in different dataset.
- Develop an understanding of code hardware interaction for system control using grove pi board.

**Pantech Solutions(online)** **APRIL 2023 - MAY 2023**  
Intern

- Gained proficiency in embedded programming and interface.
- Here I come to know about the use of embedded C in interfacing.
- Develop an understanding of code hardware interaction for system control

## Projects

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### Conversational RAG QA System

**Technologies:** Python, Streamlit, LangChain, FAISS, Google Embeddings, ChatGroq Llama-3.1, SQLite

- Developed a **RAG pipeline** for answering queries from PDFs, DOCX, and TXT documents using embeddings and vector search.
- Integrated **ChatGroq Llama-3.1** for contextualized, history-aware query responses.
- Built a **Streamlit UI** for document upload, vectorization, and seamless interaction.
- Implemented session-based chat history using **SQLite** for continuity.
- Optimized modular architecture with **FastAPI** for backend processing.

**Impact:** Simplified real-time document QA, showcasing expertise in Generative AI, RAG, and NLP tools.

## **Transformer Model Development**

- Implemented a decoder-only transformer model from scratch using PyTorch, showcasing advanced understanding of neural network architectures.
- Engineered custom tokenization, attention mechanisms, and positional encodings for efficient sequence modeling.
- Achieved optimized model training through gradient clipping and learning rate scheduling, enhancing convergence.
- Demonstrated expertise in PyTorch, transformer architectures, and model optimization techniques.

## **Multi-Source RAG System**

- Built an Advanced Retrieval-Augmented Generation (RAG) model that integrates multiple data sources including Wikipedia, arXiv, and a custom tool for website embeddings.
- Employed Google Gemini-Pro and Google Generative AI Embeddings for high-quality contextual responses.
- Leveraged LangChain library for agent creation and query routing, and deployed the solution via Streamlit for seamless user interaction.

And many more on [Portfolio Link](#)

## **Technical skills**

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**Programming Languages:** C, C++, Python, OOP, SQL, Pytorch

**Git and Git hub, Artificial Intelligence and Machine Learning,**

**Natural language processing, Important Libraries:** Hugging Face, Langchain, Streamlit, Docker, Boto3,

**LLMS:** OPEN AI, LLAMA, GOOLE GEMINI, CLAUDE AI, AWS(Bedrock)

**Vector Databases:** FAISS, CHROMA, OBJECTBOX, ASTRA

**Tools:** vs code, pycharm , Jupyter

**Cloud Deployment :- AWS** (EC2,Lambda, Fargate,S3,Bedrock and more)

## **Soft skills**

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|----------------------------------|--------------|
| • Communication and adaptability | • Teamwork   |
| • Problem solving                | • Leadership |
| • Time management                |              |

## **Certifications**

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- BCG GenAI Job Simulation on Forage - August 2024
- TCS ion Young Professional (TCS)
- Creating your first python program (Coursera)

## **Achievements**

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- Google digital marketing
- Learning how to learn (Coursera)
- Active participant in college event and awarded as student of year 2022
- Organized a Technical event in college tech fest 2023 which includes more than 140 participants

## **Declaration**

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I hereby declare that all the information provided in this resume is true and accurate to the best of my knowledge.

