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## EDUCATION

**National Institute of Technology, Calicut**                                                    Kerala, India
Bachelor of Technology                                                                          **August 2019 - May 2023**

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## SKILLS SUMMARY

- **Programming**: Python, SQL
- **Machine Learning**: Scikit-Learn, Regression, Classification, Clustering, Feature Engineering, Model Evaluation
- **Deep Learning**: TensorFlow, CNNs, ANNs, Transfer Learning
- **NLP & LLMs**: LangChain, Llama, RAG, Tokenization, Transformers, ChromaDB, Vector Search, Prompt Engineering & Evaluation
- **Tools & Cloud**: Power BI, Excel, MySQL, Git, Jupyter, VS Code, PyCharm, AWS
- **Frameworks/Libraries**: NumPy, Pandas, Matplotlib, Streamlit, FastAPI
- **Soft Skills**: Stakeholder management, Structured communication, Documentation

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## WORK EXPERIENCE

**Data Science Intern | Luminar Technolab | LINK**                                               **December 23- July 24**

- ○ Conducted exploratory data analysis and visualization using **Pandas**, **NumPy**, **Matplotlib**, and **Power BI**, uncovering insights that improved project decision-making speed by **25%**.
- ○ Developed and trained ML models (classification, regression, clustering) using **Scikit-Learn**, improving baseline model performance by **20–40%** depending on dataset.
- ○ Built deep learning prototypes with **TensorFlow**, including CNN-based image classifiers and ANN models.
- ○ Improved data preprocessing workflows by creating modular Python scripts, reducing cleanup time by **60%**.

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## PROJECTS

**Intelligent RAG Documentation Assistant | LINK**

- ○ Engineered a production-ready **RAG chatbot** using **LangChain**, Ollama (Llama 3.2), and **FAISS**, automating technical documentation retrieval with conversational AI and source citation tracking..
- ○ **Implemented dual embedding architecture** with **HuggingFace** (all-MiniLM-L6-v2) and OpenAI models, achieving 100% cost reduction through local inference while processing 45+ document chunks.
- ○ Created a Streamlit interface with conversational memory and multi-format document ingestion (PDF/Markdown/TXT), reducing information lookup time by 80%.
- ○ Designed a **cost-optimized GenAI solution** leveraging **open-source models and local LLM inference**, eliminating cloud dependency and reducing operational cost to **$0/month** compared to API-based alternatives.

**Cold Email Generator | LINK**

- ○ Created an AI-powered cold email generation system using **LangChain**, **Llama**, and **RAG**, automating job scraping, portfolio retrieval, and personalized email drafting.
- ○ Implemented a **vector search workflow using ChromaDB** enabling <150ms retrieval speed for personalized context.
- ○ Built a **Streamlit interface** with modular LLM pipelines, reducing manual email creation time by **90%**.
- ○ Designed extensible prompts and parameter tuning (tone, length, style), increasing relevance score by **35%**.

**Prediction of Subject Based on Question | LINK**

- ○ Engineered an NLP classification pipeline (tokenization, cleaning, stemming, stopword removal) improving F1 score by **30%**.
- ○ Applied **TF-IDF vectorization** and optimized hyperparameters via grid search, achieving a **10% accuracy boost**.
- ○ Reduced model inference time by **40%** through dimensionality reduction and caching strategies

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## CERTIFICATES

**IBM PYTHON FOR DATA SCIENCE| CERTIFICATE**                                                      **March 2023**

- ○ Mastered fundamental Python syntax, proficiently utilizing control flow, loops, functions, and data structures.
- ○ Strengthened understanding of data preparation, model evaluation, and AI engineering workflows to improve practical implementation skills.

**Machine Learning and Data Science Bootcamp| CERTIFICATE**                                       **March 2023**

- ○ Enhanced proficiency in collecting and preprocessing raw datasets to prepare them for effective machine learning analysis.
- ○ Studied the modern data ecosystem, including ETL pipelines, data management concepts, and foundational analytics practices.