

ROOP SAGAR MANGINENI

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Education

Iowa State University

Master of Science in Artificial Intelligence

Aug 2023 – May 2025

Ames, Iowa

SRM University

Bachelor of Technology in Computer Science and Engineering

June 2019 – May 2023

Andhra Pradesh, India

Technical Skills

Languages: Python, C/C++, Java, HTML, CSS, JavaScript, SQL.

AI & ML : Machine Learning, Deep Learning, Image Processing, Natural Language Processing, Large Language Models, LLM, GPT 3.5, GenAI, Computer Vision, Time Series Analysis, OpenAI, LangChain, ChainLit, HuggingFace, PineconeDB, Cassandra DB, Datastrax Astra DB, Streamlit, MLOPS, MLFLOW, Kubernetes, PostgresML.

Relevant Libraries: NumPy, OpenCV, Scikit- Learn, Matplotlib, keras, SpaCy, Tensorflow, NLTK, PyTorch.

Technologies/Frameworks: AWS, Github, Excel, PowerBI, Canvas, JQuery, Bootstrap, React JS, Node.JS, Rest API, MongoDB, Flask, Docker, AWS Sagemaker, Pyspark.

Developer Tools: VS Code, Eclipse, Azure DevOps, Azure Databricks.

Experience

Tata Consultancy Services

Project Trainee

Dec 2021 – Jun 2022

Hyderabad, Telangana

- Proficient in creating dynamic and insightful business intelligence reports for clients using Power BI, enabling data-driven decision-making. Experienced in extracting, transforming, and loading (ETL) data using Azure Databricks.
- Tech Stack: Power BI, SQL Server, Azure Databricks, Azure DevOps.

Trinity Tech

Data Analyst Intern

Aug 2021 – Nov 2021

Bangalore, Karnataka

- Designed and implemented sophisticated analytical solutions, leveraging data insights to inform strategic decisions. Successfully briefed cross-functional teams on key findings and provided actionable suggestions to enhance business strategies, resulting in improved operational efficiency.
- Utilized advanced Microsoft Excel features, including pivot tables, for efficient data analysis and reporting, enhancing data-driven decision-making.

APSSDC

AWS Intern

May 2020 – Aug 2020

Amaravathi, Andhra Pradesh

- Proficient in building cloud-native applications on AWS, utilizing services such as AWS Lambda, API Gateway, and S3 for serverless architecture, resulting in reduced infrastructure costs by 30 % and improved application scalability.
- Proficient in fine-tuning SQL queries and implementing indexing strategies in MS SQL Server. Additionally, skilled at leveraging AWS Aurora's features to maintain high database availability.

Projects

Automated Blog Generation with LLama 2 | 🐍 Python, GenAI, LangChain

November 2023

- Led the development of an automated blog generation tool, seamlessly integrating the powerful LLama 2 language model. Implemented a user-friendly Streamlit interface, allowing effortless blog creation through customized prompts
- Leveraged the dynamic capabilities of Prompt Templates within the LangChain framework, allowing users to tailor content for different writing styles, ranging from researchers and data scientists to the general public.

Conversations Chatbot with OpenAI | 🐍 Python, OpenAI, LangChain

September 2023

- Implemented an intelligent Conversations chatbot with OpenAI's Text-Davinci-003, ensuring users receive informative and contextually relevant responses. Achieved seamless integration of the OpenAI library to enhance natural language understanding, resulting in dynamic conversational experiences.
- Leveraged LangChain for creative prompts and personalized interactions. Efficiently managed language models with Hugging Face Hub in Conversations Chatbot with OpenAI for accessibility and optimization.

Pneumonia Detection: CNN, VGG16, and ResNet | 🐍 Python, Image Processing

November 2022

- The proposed model is used to classify whether the person is affected by pneumonia using chest X-rays. Achieved a remarkable accuracy of around 91%, attesting to the model's reliability.
- Led a comprehensive study comparing Convolutional Neural Network (CNN), VGG16, and ResNet models for pneumonia detection, showcasing a deep understanding of diverse deep learning architectures.

Analysis of Diseases based on symptoms | 🐍 Python, Machine Learning

January 2021

- Used Ensemble Process (Logistic Regression, Decision Tree, Random Forest, SVM, and Naive Bayes) to identify the disease based on the symptoms. Applied image preprocessing techniques to enhance the quality of chest X-ray images.
- Communicated findings, and effectively presented results using data visualization techniques. Two different kinds of self-created data sets were used to evaluate this model. Acquired an accuracy score of 97.62%.