

ROOP SAGAR MANGINENI

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Education

University of Illinois

Master of Science in Computer Science

Aug 2023 – Present

Springfield, Illinois

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, GenAI, Computer Vision, Time Series Analysis, Snowflake, OpenAI, LangChain, HuggingFace, MLOPS, MLFLOW.

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

Technologies/Frameworks: AWS, Github, Excel, PowerBI, Canvas, Bootstrap.

Experience

SRM AP

Undergraduate Teaching Assistant

Sept 2022 – May 2023

Amaravathi, Andhra Pradesh

- Collaborated closely with faculty members in the development and refinement of lesson plans, contributing innovative ideas and practical examples to enhance the effectiveness of the Python course curriculum.
- Delivered individualized assistance to students through regular office hours, addressing specific questions and offering guidance on assignments, thereby facilitating a collaborative and inclusive learning environment.

Trainty Tech

Data Science Intern

Aug 2021 – Nov 2021

Hyderabad, Telangana

- Designed and implemented sophisticated analytical solutions, leveraging data insights to inform strategic decisions, and successfully briefed cross-functional teams on key findings, providing actionable suggestions to enhance business strategy.
- Utilized advanced Microsoft Excel features, including pivot tables, for efficient data analysis and reporting, streamlining processes, improving operational efficiency, and enhancing data-driven decision-making accuracy across the organization.

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.
- Experienced in fine-tuning SQL queries and implementing indexing strategies in MS SQL Server. Additionally, highly skilled at leveraging AWS Aurora's features to maintain high database availability and performance.

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.

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 and effectiveness.
- 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 and their applications.

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%.

Credit Risk Modeling | 🐍 Python, ML Pipeline, Ensemble Learning

October 2020

- Analyzed the Lending Club dataset from Kaggle with 2 million loan applicants, to construct a probability model.
- Extracted valuable information for strategic decision-making, product development, trend analysis, forecasting, and provided actionable insights, thereby effectively facilitating informed and strategic decision-making processes.