Roop Sagar Mangineni

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Education

University of Illinois **Jan 2024 – Present**
Master of Science in Computer Science *Springfield, Illinois*

SRM University **June 2019 – May 2023**
Bachelor of Technology in Computer Science and Engineering *Andhra Pradesh, India*

Technical Skills

Languages: Python, C/C++, Java, HTML, CSS, JavaScript, SQL.
Al & 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, 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 **Sept 2022 – May 2023**
Undergraduate Teaching Assistant *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.

Tata Consultancy Services **Dec 2021 – Jun 2022**
Project Trainee *Hyderabad, Telangana*

- 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 **May 2020 – Aug 2020**
AWS Intern *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 promptss
- 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.
- 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%.

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 that can be used in strategic decision-making, product development, trend analysis, and forecasting and giving valuable insights to stakeholders.