Raghul Gopal

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WORK EXPERIENCE

Logitech   **Chennai, India**
Junior Data Scientist   *07/2024 – Present*

- Developed an **ATS for Talent Acquisition Team**, streamlining the process of filling CVs into a tabular format, resulting in a **20% increase in efficiency**, and **50% reducing the time of recruiters**.
- Utilized **Zero Shot Text Classification algorithm** to rank the CVs based on **both quantifiable and non-quantifiable KPIs** provided by the Hiring Managers, improving accuracy in candidate selection by **15%**.
- Utilized **Text Generation Models** to provide insightful reasoning for ranking decisions, resulting in a **15% increase** in accuracy of project evaluations.
- Developed **RAG Technology** to identify **key candidate skills and strengths**, which **reduces the time-to-hire by 15%** and improving overall candidate experience.
- Proposed an **automated email system to B2B Sales and Services** which can identity **pain points of end customers and analyzed databases within seconds**, resulting in a **30% increase** in response rates from potential leads.
- Proposed a solution of collaborating with the marketing team to implement **GenAI Technology** to track **quality leads through closed deals, open deals, and requests**, resulting in a **25% increase** in conversion rates.
- Collaborated with team members to **automate backup of notebooks and files in SageMaker** using CRON job functionality, **reducing manual effort by 30%.**
- Streamlined data management processes by implementing **Automatic Deletion of Old S3 Bucket files** using the same CRON Job functionality used in backup, resulting in a **30% decrease in storage costs**.

Verchool Holdings   **Dubai, UAE**
Machine Learning Engineer (Remote)   *01/2024 – 05/2024*

- Advanced a scalable **Generative AI model to accurately match family zones of virtual board meeting participants**, resulting in a **30%** increase in meeting efficiency.
- Conducted in-depth analysis of customer behavior patterns using advanced machine learning techniques**, resulting in a 15% increase** in timely and relevant outreach to customers.
- Utilized predictive modeling to identify key indicators of likely next actions by customers, enabling proactive outreach strategies that resulted in a **10% increase in customer engagement**.

ASecureCloud   **Toronto, Ontario**
Applied AI Scientist Intern (Remote)   *08/2023 – 11/2023*

- Researched and analyzed the market potential for integrating AWS with GenAI Applications, leading to the identification of a **$500M market opportunity for Quivr App in AWS.**
- Authored and published a series of scientific blog posts on Medium highlighting the benefits and practical applications of integrating AWS with other models, generating over **10,000 views and increasing brand visibility by 20%.**

Stigmata Techno Solutions   **TamilNadu, India**
Machine Learning Research Intern   *01/2022- 01/2023*

- Devised and implemented a comprehensive AI strategy for the **MSI project**, contributing to **70% of the project's success** and ultimately leading to a successful acquisition by Stigmata Techno Solutions. Utilized **data visualization, advanced algorithms, machine learning techniques, and text analytics/NLP** to maximize sales performance.
- Produced a comprehensive **AWS False Key detection** system utilizing Logistic Regression and Natural Language Toolkit LSTM models to achieve **accuracy rates of 75%** and **prototype accuracy rates of up to 95%,** improving security measures by flagging false keys with an **accuracy rate of 91%.**

SKILLS AND CERTIFICATIONS

Programming Languages: Python, Java, C, R, HTML, CSS, JavaScript, MySQL
Frameworks and Platforms: Tensorflow, PyTorch, Keras, Scikit-learn, LangChain, Gradio, Huggingface, AWS Cloud, Tableau.
Certifications: AWS Cloud Practitioner, AWS Developer Associate, AWS Data Science Builder, AWS Machine Learning Specialty, Google's Generative AI, DeepLearning.AI Specializations, B2B Marketing, B2B Sales and Territory Strategies.

PROJECTS

Event Driven Pipeline to Summarize the Meeting Transcripts using Llama3

- Developed and deployed an automated system leveraging **AWS services to transcribe audio files and generate summaries**, **reducing transcription time by 50%.**
- Implemented functionality to automatically handle audio file upload, transcription job creation, content splitting based on speaker labels, and summary generation using **Llama3**, resulting in a **75% increase in workflow efficiency**.

DocumentChatBot – Chat with your Documents using LLM powered by LangChain

Developed and implemented the RAG Architecture as the foundational framework for the chatbot project, enabling seamless communication between the bot and uploaded documents. Used **LangChain, Embeddings, and Vector DB** to power the chat bot's language processing capabilities, resulting in a **30% improvement in document understanding accuracy**.

Additive Manufacturing of Pharmaceuticals using AI

- Automated system achieves **80-90 % accuracy** in pharmaceutical production. Teamed with **Prof. Dr. Rajkumar Velu** from IIT Jammu to automate solid pharmaceuticals production, cutting production time by **50%**.

Finetuning Llama2 Model with Custom HTML Dataset

- Utilized HF's custom HTML Dataset to train the finetuned Llama2 Model, boosting **accuracy by 15%.**
- Implemented **QLoRA for model optimization**, **reducing complexity by 20%,** and leveraged **SFTTrainer** and Loop for robustness testing, **increasing reliability by 30%.**

Recommendation System using MXNet Models and Factorization Machines using AWS SageMaker

- Engineered a state-of-the-art recommendation system **leveraging MXNet and AWS SageMaker Factorization Machines Algorithm** to analyze user preferences, resulting in an **impressive accuracy rate of 87%, surpassing other custom machine learning models by 15%.**
- Utilized data analysis and statistical modeling techniques to evaluate user preferences and provide personalized movie recommendations, **leading to a significant increase in user engagement by 30%** within the first quarter of implementation.

EDUCATION

Anna University   **TamilNadu, India**
Bachelor of Technology in Information Technology, **Cumulative GPA: 8.9/10.00**   *2020-2024*
Coursework*:* Operating Systems, DBMS, DataStructures, Algorithms, Artificial Intelligence, Functional Programming, Cloud Computing, Generative AI, Low – Level Designs.

VOLUNTEER EXPERIENCE

AWS Community Builder *(Machine Learning & Generative AI Category)*   *03/2024 – Present*
Selected as an **AWS Community Builder in Machine Learning and Generative AI Category**. Contributing to the community by presenting workshops, webinars, tech talks, and more.

AWS Cloud Captain   *03/2023- 03/2024*
Selected as an **AWS Cloud Captain**, among 50 captains from the world and 10 from India. Created **AWS Cloud Club St. Joseph's**, and delivered **AWS impacts and efficiencies** to students through Technology meetups, Hands-on-Session, and more.

PUBLICATIONS

1. Raghul, G. (2023). **U-NET and RCNN Ensembled Satellite Object Detection and Segmentation**. IEEE Explore.
2. Raghul, G. Karthi. M., Priscilla. R., (2023). **AdCNN-QT Ensemble - Advanced Method for Diagnosing Medical Images and QT for DICOM Image Transfer**. Advanced Biotechnology and Pharmacy Journal