Raghul Gopal

raghulgopal2002@gmail.com |+91-7577948377 | GitHub | LinkedIn | raghulgopal.com

EDUCATION

Anna University   **TamilNadu, India**

Bachelor of Technology in Information Technology, **Cumulative GPA: 8.8/10.00**   *2020-2024*

Coursework: Operating Systems, DBMS, DataStructures, Algorithms, Artificial Intelligence, Functional Programming, Cloud Computing, Generative AI, Low – Level Designs.

WORK EXPERIENCE

Verchool Holdings   **Dubai, UAE**

Machine Learning Engineer (Remote)   *01/2024 – Present*

- 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**.

CDP Networks *(Freelance)*

AWS Trainer

- Developed and delivered a comprehensive training program for college students and working professionals seeking to transition their careers into AWS Cloud, resulting in a 90% success rate of participants obtaining AWS certifications.

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.**
- Collaborated with cross-functional teams to develop and execute a comprehensive marketing strategy, resulting in a **30% increase** in user adoption of the Quivr App on 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*

- Gained 15% increase in revenue for the company by collaborating with cross-functional teams to design and launch a new **AI-powered product**. 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.
- Analyzed data trends and patterns to proactively identify potential attrition events, strategically timing predictions for effective implementation of counteraction strategies. This resulted in a **20% reduction** in employee turnover rates.
- 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%.
- Created user-friendly self-serve tools for **stakeholders** to access real-time information, enabling them to make well-informed decisions efficiently.

SKILLS AND CERTIFICATIONS

Programming Languages: Python, Java, C, R, HTML, CSS, JavaScript

Database: MySQL

Frameworks: Tensorflow, PyTorch, Keras, Scikit-learn, LangChain, Gradio

Certifications: AWS Cloud Practitioner, AWS Developer Associate, AWS Data Science Builder, AWS Machine Learning Specialty, Google's Generative AI, DeepLearning.AI Specializations

Soft Skills: Excellent communication and presentation skills, Ability to work collaboratively in cross-functional teams
Strong problem-solving and critical-thinking abilities

PROJECTS

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.

VOLUNTEER EXPERIENCE

AWS Cloud Captain   *03/2023- 03/2024*

Selected as **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.

AWS Community Builder *(Machine Learning & Generative AI Category)*   *03/2024 – Present*

Accepted as AWS Community Builder in Machine Learning and Generative AI Category. Contributing to the community by presenting workshops, webinars, tech talks, and more.

LINKS

YouTube – Raghul Gopal   Medium – Raghul Gopal Hashnode.dev – Raghul Gopal AWS Community – Raghul Gopal

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