

RAGHUL G

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OBJECTIVE

Software Engineer (AI and Cloud), Data Scientist, AI Research Scientist with 3+ Years of College Level Exp.

AWS Cloud Club Captain for India Region, one among the 10 candidates from India. Principle AI & Cloud Lead, Organizer of **AWS Cloud Club at St. Joseph's Institute of Technology**, delivering AWS impacts and efficiencies to students through Technology meetups, Hands-on-Session, and more

EDUCATION

Bachelors of Information Technology, St. Joseph's Institute of Technology 2020 - 2024

Relevant Coursework: Artificial Intelligence, Cloud Computing, Algorithms, DataStructures, Operating Systems, DataBase Management Systems

CGPA (Penultimate Year): **8.79/10.0**

Higher Secondary, AV Meiyappan Mat. Hr. Sec. School 2019 - 2020

Relevant Coursework: Higher Secondary in Computer Science Degree with an aggregate **85.33%**.

EXPERIENCE

Youtuber - Tech with Rahul G March 2023 - Present
YouTube *Chennai, TamilNadu*

- Content Creator, Technology Meetups, Gathering, Software Engineering Skills, AI Research, Cloud Practitioner Roles
- Serves as the Main Source for **AWS Cloud Club at St. Joseph's Institute of Technology**, where Technical Meet-ups with Experts, Events from the Club, Online classes, Hands-on-Session to AWS Services, and more.

Machine Learning Internship Jan 2022 - Jan 2023
Stigmata Techno Solutions *Chennai, TamilNadu*

- Collaborated with cross-functional teams to design and launch a new AI-powered product, resulting in a **15%** increase in revenue for the company.
- Streamlined data processing pipeline, reducing processing time by **30%** and increasing the efficiency of the team's workflow.
- Devised and executed the AI strategy for the **MSI project**, with a **70%** project contribution, resulting in a successful takeover by Stigmata Techno Solutions.
- Created 5 UML Design Diagrams for MSI modules, and took charge of SRS development, achieving seamless inter-module communication and reducing development time by **20%**.
- Developed 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%**.

Data Science Internship Feb 2022 - May 2022
AP-3 Solutions *Chennai, TamilNadu*

- Collaborated with cross-functional teams to integrate the object detection model into an end-to-end workflow, resulting in a significant reduction in manual effort and cost savings of **50K per year**.
- Automated the data pre-processing pipeline to handle a large number of satellite images and reduced processing time by **60%**, enabling faster model iteration cycles.
- Enhanced the performance of the image detection algorithm by implementing a new methodology using Convolutional Neural Networks with RPN, resulting in a **40%** increase in accuracy for identifying buildings and water bodies.

- Managed a team of 5 interns, overseeing their daily tasks and providing guidance on complex machine learning algorithms, resulting in a **20%** decrease in error rates.
- Developed and executed a rigorous training program for the intern team, resulting in a **30%** increase in coding efficiency and accuracy.

PROJECTS

Object Detection Model using Images in Amazon SageMaker.

April 2023 — Present

[Link to the Project](#)

- Multiscale model to detect 2 objects namely weeds, and insects present in the agricultural plant image. The dataset is taken from **inaturalist.org**.
- Used **MXNet** has a backend, and **SageMaker GroundTruth** to automate the labelling process. This made to reduce the cost and productivity issues of the model to 25% of the original.
- Finally, working on deeper insights about the model, and the project is almost 80% completed. Deployment stages, Visualization, and final accuracy is pending.
- Tech Stack Using: **AWS Management Console, AWS SageMaker, AWS S3, AWS QuickSight, SageMaker Groundtruth, MxNet**

3D Printing of Pharmaceuticals using Artificial Intelligence

Jul 2021 - Jan 2023

[Link to the Project](#)

- Built a prototype which is to automate the process of solid pharmaceutical production using **3D printing Fused Deposition Model**.
- In association with **Prof. Dr.Rajkumar Velu** from **IIT Jammu**, scaled up the resources needed for manufacturing, and automated the wholesome process. Achieved greater accuracy in all the modules ranging from **80% to 90%**
- Tech Stacks Used: **Pytorch, Tensorflow, Scikit-learn**

False Crypto Currency Detection and Prediction

Nov 2022 - Dec 2022

[Link to the Project](#)

- Scaled to detect the 11 types of false Crypto key and validate the future volume in using **LSTM and Conjugated LSTM**.
- Final Accuracy calculated is **90%** for LSTM. For Conjugated LSTM, accuracy scaled up to **86%** which is better than other models suggested.
- Tech Stacks Used: **Tensorflow, Keras, Scikit-Learn**

Automation of Fluoroscopic Imaging using Machine Learning

July 2022 - Sep 2022

[Link to the Project](#)

- In association with **Dr. Aishwarya** from **Andijan State Medical Institute, Uzbekistan**, examined 4 diseases from public and real-time datasets.
- Adaboost Regressor gave a **91%** score, PCA decomposes with a score of **72%** to pass the decomposed images to AdCNN.
- Accurate predictions up to **91%** and AdCNN accuracy is **93%** measured.
- Tech Stack Used : **IBM Quantum, Qiskit, Tensorflow, Keras, Scikit-learn**

Exploratory Data Analysis of OTT Platforms

Sep 2022 - Oct 2022

[Link to the Project](#)

- This project covers 3 major OTT Platforms namely Amazon Prime Video, Netflix, and Hotstar.
- With the help of the ggplot2 function available in R, plotted various plots to analyze the graphs based on 3 major categories namely age, gender, and duration.
- Tech Stack Used : **R, R Studio**

SKILLS

Technical Skills	Python, Java, C, R, HTML, CSS, JavaScript
Frameworks	Tensorflow, Keras, OpenCV, Pytorch, Scikit-learn, AWS SageMaker
RDBMS	MySQL, PostgreSQL, SQLite
Cloud Platform	AWS Cloud Practitioner, AWS Machine Learning Specialty
Data Analytics	Matplotlib, Numpy, Pandas, Plotly

ACHIEVEMENTS

Techathlon 2023 - Paper Presentation

- **1st Place** in Paper Presentation for the Paper titled **Automation of Fluoroscopic Imaging using Machine learning - QTP for DICOM Image Transfer**
- Grabbed **3000 INR** as a Cash Price for the best Research Paper.

Seimens Shift Hackathon 2022

- One of the **top 10 Finalists** among 500 teams from all over India.
- Grabbed **10,000 INR** as an incentive for a notable project among the finalists.

KPMG Malta Hackathon

- One of the **Finalists** among 1500 teams where the business idea has been proposed for Online Shopping since the Covid pandemic peak.
- Grabbed **30\$** as incentives for the **best 15 ideas** among 500 shortlisted teams

TamilNadu Police Hackathon 2022

- Secured **4th Position** in Tamil Nadu Police Hackathon 2022 with my teammate.
- Received **3000 INR** for the best project discussion and idea generation.

Rapyd Hackathon 2022

- Secured one among the top 100 teams for best idea simulation, and innovative prototype discussion.
- Received **30 \$** as an incentives for best idea proposal.

KPIT Sparkle 2022

- Secured one among the top 100 teams from 500 teams for the Sustainable development phase of Energy in the Hackathon.

Innopreneurs Ideathon

- Shortlisted among 10,000 participants for the best startup idea.
- Secured **10,000 INR** goodies for the best startup idea.

CONFERENCES & PUBLICATIONS

1. Rajkumar, V, Karthi, M., Raghul, G (2023). *Intelligent Automation of Pharmaceuticals Production using 3D Printing*. Flexible Services and Manufacturing Journal(Review). Retrieved 2023.
2. Karthi, M., Raghul, G. (2023). *False Crypto Currency Detection and Analysis using LSTM and Conjugated LSTM*. International Conference on Futuristic Digital Technologies for Sustainable Development ICFDTS. Retrieved 2023.
3. Karthi, M. Raghul, G. (2023). *Automation of Fluoroscopic Imaging through AI*. Advanced Biotechnology and Pharmacy. Retrieved 2023.
4. Karthi, M., Raghul, G., Priscilla, R. (2023). *AdCNN-QT Ensemble - Advanced Method for Diagnosing Medical Images and Quantum Teleportation for DICOM Image Transfer*. Physics in Medicines and Biology (Review). Retrieved 2023.
5. Raghul, G. (2023). *U-NET and RCNN Ensembled Satellite Object Detection and Segmentation*. IEEE Explore. Retrieved from <https://ieeexplore.ieee.org/document/10073720>
6. Karthi, M., Raghul, G., Priscilla, R. (2022). *Automation of Fluoroscopic Imaging through AI - QTP for Secured DICOM Image Transfer*. International Conference for Recent Advances in Biotechnology and Environmental Science 2022. Retrieved 2023.
7. Raghul, G. (2022). *Mask Segmentation and Object Detection in Satellite Imagery*. International Conference on Emerging Trends, Innovation in Science, Engineering, and Education. Retrieved 2022.