

CHRISTINA RAICHEL FRANCIS

Machine Learning Engineer

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Dynamic engineer with a Master's degree possessing a profound understanding of machine learning. Passionate about crafting ML system architectures, actively contributing to Gen AI initiatives, and collaborating on the development of scalable data systems.

Skills

- **Data stores and Databases:** Weaviate (VectorDB), Snowflake, S3
- **Data processing:** Python, Pyspark DF
- **Cloud ML:** AWS Sagemaker, Lambda, ECR
- **Orchestration:** Airflow, Mlflow
- **Testing and quality :** Pytest, Pylint
- **CI/CD:** Git, Github Actions
- **DL Frameworks:** Tensorflow, Opencv
- **Data analytics:** Numpy, Pandas, Sklearn, Postgresql, Seaborn, Matplotlib
- **Real-time transport:** Kafka, Kinesis
- **Model deployment:** Docker, Flask, Fastapi
- **Data structures & algorithms**
- **Frontend:** React, Tailwind CSS, JS/TS

Qualifications

- AWS Certified Machine Learning Specialty, Amazon Web Services, September 2022
- TensorFlow Developer Certification, DeepLearning.AI, Coursera, June 2020

Work history

Machine Learning Engineer

SELF EMPLOYED, London

May 2023 - current

- Created and deployed a web application for task based code generation, utilising Hugging Face datasets, vector search and generative search, achieving response times of less than 5 seconds
- Engineered a recommendation system for e-commerce, leveraging user purchase history to provide product recommendations to users and achieved 20% increased user engagement
- Developed federated book recommender engines and obtained performances comparable to non federated versions while implementing 75% increased privacy for users
- Deployed a ride trip duration prediction application on AWS cloud, which provided real time predictions on streaming events with less than 200ms latency
- Categorised protein sequences as non-antibiotic-resistant or resistant, including subclass categorization utilising Protrans Masked LLM based embeddings and achieved precision and recall rates exceeding 93%
- Built a recommendation engine and delivered recommendations based on users' recent page visits, driving a 20% reduction in bounce rate

Data Engineer, AI and Analytics

COGNIZANT TECHNOLOGY SOLUTIONS, Kochi, INDIA

September 2022 - May 2023

- Conducted ETL operations on data pipelines for machine learning projects, implemented optimization strategies resulting in 10% increase in execution efficiency
- Conducted in-depth research on distributed computing techniques, implementing best practices to optimise data processing and reducing execution time by 40%
- Actively participated in and contributed to over 3 workshops and training sessions, enhancing team knowledge in optimization techniques and best practices

Junior Telecom Officer, Network Operations

BHARAT SANCHAR NIGAM LIMITED (BSNL), Kerala Circle, INDIA

March 2018 - May 2022

- Leveraged Python to develop independent interfaces for monitoring over 100 telecom cells and 1 Cr+ subscribers, yielding a remarkable 75% reduction in query time
- Employed SQL queries to manage the databases and to create daily reports encompassing a vast customer base of over 30 lakh postpaid and 90 lakh prepaid subscriber
- Delivered essential data analysis and reporting support, significantly enhancing customer service and driving revenue growth by 5%
- Collaborated with cross functional teams in the organisation and vendors, improving user retention and customer experience by 40%

Education

Master of Technology in Signal Processing

College of Engineering, Trivandrum, India

August 2016

- *Relevant courses:* Machine learning, Probability and statistics

Bachelor of Technology in Electronics & Communication Engineering

Government Engineering College, Thrissur, India

August 2014

Publications

- A scale invariant technique for detection of voice disorders using Modified Mellin Transform International Conference on Emerging Technological Trends (ICETT). IEEE, October 2016.