

Rohit Venugopal

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SKILLS

- **Programming:** Python (Pandas, NumPy, Scikit-Learn, Matplotlib, Seaborn), PHP, JavaScript
- **Machine Learning:** Supervised & Unsupervised Learning, Deep Learning (PyTorch, TensorFlow), Model Building & Optimization, Clustering, GANs, EDA
- **Natural Language Processing:** Text Classification, Sentiment Analysis, Named Entity Recognition (NER), Sequence Modeling (RNNs, LSTMs), Transformer Models, Generative AI
- **Data Analysis & Visualization:** Data Wrangling, Feature Engineering, Visualization (Matplotlib, Plotly, PowerBI)
- **Cloud & Big Data:** AWS (EC2, S3, RDS, Lambda, SNS), SQL, Distributed Systems
- **Development & Deployment:** Django, Flask, React, REST APIs, CI/CD (Docker, Git), Agile Methodologies

EXPERIENCE

Data Scientist

ART Health Solutions

July 2023 - July 2024, Newcastle upon Tyne, UK

- Spearheaded the development and management of the company's end-to-end data science and machine learning pipeline, driving key insights and strategic decision-making.
- Engineered a unified data system to efficiently process and store high-frequency data from multiple sources, enhancing data analysis and machine learning capabilities.
- Managed AWS infrastructure, reducing monthly costs by 70% through service optimization.
- Enhanced data pipelines, improving performance by 99.8% and reducing run times.
- Developed machine learning engines for personalized user insights, significantly enhancing user experience.
- Contributed to the successful completion of Stage 1 of the ISO 27001 certification by leading the creation of QMS documentation.

KTP Associate (Data Science & Software Development)

Northumbria University

July 2021 - July 2023, Newcastle upon Tyne, UK

- Led a high-impact knowledge transfer project between Northumbria University, ART Health Solutions, and InnovateUK, driving innovation in employee health and wellbeing.
- Engineered data analysis pipelines for comprehensive employee wellbeing insights.
- Developed backend systems and data processing pipelines, enabling seamless product integration.
- Designed a Random Forest model to predict stress levels with 68% accuracy.
- Recognized with the "Future Leader Award" at the KTP Awards 2023.

Senior Applications Developer

University of Essex

November 2020 - March 2021, Colchester, UK

- Contributed to the development of a Federated Learning System, ensuring secure, decentralized data analysis.
- Collaborated with Essex Police, NHS, and team members to design and implement a system that met stringent data privacy and security standards.
- Assisted in authoring a research paper on Federated Learning, contributing to the academic and practical understanding of secure data sharing methodologies.

PUBLICATIONS

Association Rule Mining for Occupational Wellbeing

doi.org/10.1007/978-3-031-55568-8_45

- Implemented association rule mining algorithms (Apriori, FP-Growth, DE-ARM) on wellbeing data from 157 employees during COVID-19.
- Extracted over 1,000 rules, providing insights into the correlation between sleep, emotions, and performance.
- Published findings in Springer's Advances in Computational Intelligence Systems.

Privacy Preserving Generative Adversarial Networks

doi.org/10.1016/j.neunet.2022.06.022

- Developed a privacy-preserving GAN to generate synthetic EHR data, maintaining privacy and utility.
- Achieved 74.3% accuracy in classification tasks and 0.84 R^2 in regression tasks with the synthetic data, closely matching the original data's utility.
- Published findings in Neural Networks journal (Elsevier).

EDUCATION

Master of Science in Artificial Intelligence

University of Essex • United Kingdom • 2021 • Pass with Distinction (82%)

- Awarded International Academic Excellence for £5000
- **Thesis:** Asynchronous BCI Systems and Motor Imagery Classification with EEG data and Deep Learning

Bachelor of Technology in Computer Science and Engineering

APJ Abdul Kalam Technological University • Kerala, India • 2019 • CGPA 8.5/10 (Equivalent to UK First-class Honours)

- **Thesis:** Image Colorization using Deep Learning

CERTIFICATIONS

AWS Certified Developer – Associate

Amazon Web Services • 2023

- Certified technical proficiency in developing, testing, deploying, and debugging AWS Cloud-based applications

Natural Language Processing Specialization

deeplearning.ai, Coursera • 2020

- Certified technical proficiency in applying machine learning techniques to NLP tasks, including sentiment analysis, machine translation, LSTMs, Generative AI models, and sequence modeling.

Deep Learning Specialization

deeplearning.ai, Coursera • 2020

- Certified technical proficiency in developing, optimizing, and deploying deep learning models, including neural networks, CNNs, and sequence models.
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