Rohit Venugopal
Data Scientist

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PROFESSIONAL EXPERIENCE

ART HEALTH SOLUTIONS   Newcastle upon Tyne, United Kingdom
Data Scientist   2023-Present
- Led and managed the company's data science and machine learning pipeline
- Developed a unified system to process and store high-frequency data from multiple sources which can be easily utilised for both data analysis and machine learning
- Responsible for managing servers and various services from AWS
- Optimised AWS services and solutions to bring monthly costs down by 75%
- Optimised all data and ETL pipelines, as well as codes to improve performance and run times by 99.8%
- Developed an engine using machine learning and rule-based systems which outputs insights for users based on their wellbeing data
- Utilised clustering and analysis to understand both user experience and profile users based on their interaction
- Responsible for the creation of certain QMS documents for ISO 27001 certification
- Authored a literature review paper which is currently under review

NORTHUMBRIA UNIVERSITY   Newcastle upon Tyne, United Kingdom
KTP Associate (Data Science & Software Development)   2021-2023
- Led the knowledge transfer project between Northumbria University, ART Health Solutions and InnovateUK
- Developed pipelines to enable end-to-end data analysis for employee health and wellbeing
- Responsible for the development of backend servers, APIs, dashboards and data processing pipelines for a new product
- Set up infrastructure to enable the company to utilise machine learning and data science within their products and services
- Developed a machine learning model to predict an individual's stress based on physiological, psychological and environmental data, achieving an accuracy of 68%

UNIVERSITY OF ESSEX   Colchester, Essex, United Kingdom
Senior Applications Developer   2020-2021
- Responsible for the research and development of a Federated Learning System for the Business and Local Government Data Research Centre (BLGDRC)
- This project was in partnership with the Essex Police and NHS

NATIONAL INSTITUTE OF TECHNOLOGY   Karnataka, India
Intern Research Assistant   2018
- Responsible for the development of a new scheduler for Kubernetes, with reduced latency between containers

SKILLS

- **Programming Languages:** Python, PHP, C/C++, Javascript, HTML
- **Technologies, Tools and Frameworks**: AWS, MySQL, Django, React, PyTorch, Tensorflow, Keras, Flask, Pandas, Numpy, PowerBI, Matplotlib, Plotly, Seaborn, Git
- **Other Skills:** Machine Learning, Deep Learning, Data Analysis, Clustering, Federated Learning, Cloud Infrastructure, API Development, Agile Methodologies, CI/CD, Model Building and Optimization

PUBLICATIONS

- Privacy Preserving Generative Adversarial Networks: Journal paper published in Elsevier (https://doi.org/10.1016/j.neunet.2022.06.022)
- Association Rule Mining for Occupation Wellbeing: Conference paper published in Springer (https://doi.org/10.1007/978-3-031-55568-8_45)

EDUCATION

HARVARD BUSINESS SCHOOL   **ONLINE**
Management Essentials   **2023**

UNIVERSITY OF ESSEX   **Essex, England**
Master of Science in Artificial Intelligence   **2019-2020**
- Passed with Distinction (82%)

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY   **Kerala, India**
Bachelor of Technology in Computer Science and Engineering   **2015-2019**
- Passed with CGPA 8.5/10 (Equivalent to UK First-Class Honours)

KEY PROJECTS

- **Asynchronous BCI Systems (Master's Thesis):** Improved BCI system performance and developed an asynchronous BCI for Cybathlon 2020 using Python and MNE
- **Image Colourisation using Deep Learning (Bachelor's Thesis):** Created a convolutional neural network model with transfer learning to colourise grayscale images
- **Pioneer Robot Controller System:** Implemented obstacle avoidance and wall-following behaviour in robots using both fuzzy logic and neural networks in C++
- **Hanabi Agent:** Developed an intelligent agent for the Hanabi card game using Java, combining Monte Carlo Tree Search and neural networks

CERTIFICATIONS AND AWARDS

- **Certified AWS Developer Associate**
- **Future Leader Award** (UK Research and Innovation (UKRI) and InnovateUK, 2023)
- **International Academic Excellence Award** (University of Essex, 2019)
- **Deep Learning Specialization** (deeplearning.ai)
- **Natural Language Processing Specialization** (deeplearning.ai)