Alex Santonastaso

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EDUCATION

QUEEN MARY UNIVERSITY OF LONDON — London, UK
Master of Science, Distinction — Jan 2022 - Jan 2023
Big Data Science with Machine Learning Systems
Relevant Coursework: Big Data Processing, Cloud Computing, Data Mining, Deep Learning, Machine Learning Deployment

UNIVERSITY OF WESTMINSTER — London, UK
Bachelor of Science, First Class Honours — Sep 2018 - Sep 2021
Computer Science
Relevant Coursework: Object Oriented Programming, Database Systems, Client Server Architecture, Web Development

LICEO SCIENTIFICO ALESSANDRO MANZONI — Caserta, Italy
Diploma of Higher Education — Sep 2013 - Sep 2018
Relevant Coursework: Maths, Physics, Chemistry, Natural Sciences

WORK EXPERIENCE

QUEEN MARY UNIVERSITY OF LONDON — London, UK
Teaching Assistant — Oct 2023 – Apr 2024

- Conducted hands-on lab sessions for Big Data Science and Principles of Machine Learning Master's modules, guiding students through practical applications and real world scenarios
- Offered one-on-one assistance to students, providing valuable insights for individual projects and assignments
- Developed and delivered clear, concise presentations to communicate complex concepts, ensuring student comprehension and engagement
- Contributed to creating an engaging learning environment to enhance the overall educational experience

UNIVERSITY PROJECTS

AUTOMATED FACIAL EMOTION RECOGNITION

- Implemented facial emotion recognition using GoogLeNet Convolutional Neural Network architecture, achieving a 60% recognition accuracy on a deployment dataset
- Conducted data preparation and pre-processing of Aff-Wild2 dataset, including face detection, face alignment, data augmentation, image duplicates removal
- Added blur to the dataset and trained a second model, capable of emotion recognition of blurred images

ETHEREUM BLOCKCHAIN DATA ANALYSIS

- Performed analysis on the raw high volume data of Ethereum blockchain by implementing a set of Hadoop and PySpark Map/Reduce operations such as top K, aggregation, moving window technique
- Implemented data visualisation of the analysis using matplotlib and Seaborn

AUDIO CLASSIFICATION WITH MACHINE LEARNING

- Builded Machine Learning pipeline for a binary classification task, that learns how to predict a song label of a audio segment
- Extracted features from raw .wav audio segments using signal processing functions obtained from the Librosa library
- Implemented cross-validation and grid search to furtherly improve model performance and reduce overfitting

SKILLS

Programming: Python, Java, C#, SQL, R
Frameworks: NumPy, Pandas, Pytorch, Tensorflow, Hadoop, Spark, matplotlib, scikit-learn
Developer Tools: Jupyter Notebook, VS Code, Git, MS Office, Google Cloud Platform, AWS
Languages: English, Italian