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Michael Gauci

A computational chemist by training and a certified AWS professional, experienced in using Python for automation and data-driven projects, with a keen interest in the application of machine learning to finance. Seeking to join a fast-paced, data-oriented team tackling high-impact projects.

EXPERIENCE

Quant Researcher
Apr 2022 – Current

Self-employed — *Malta*

- Leveraged data-driven insights to identify trading strategies for investment opportunities in the US equity market
- Authoring *A Hitchhiker's Guide to Quantitative Finance*, a technical book which focuses on the interdisciplinary nature of quant finance, bridging the fields of mathematics, statistics, finance, and computer science

Founder
Oct 2018 – Dec 2019

Port Mobility — *Malta*

- Managed a team of IT specialists in developing the service architecture of a micro-mobility sharing platform
- Led a comprehensive procurement exercise for the provisioning of scooter hardware, which included a trip to China for face-to-face meetings with suppliers
- Pitched at the 7th edition of ICTSA's The Million Dollar Idea, finishing in 2nd place

EDUCATION

Master of Science in Metamaterials
Oct 2018 – Mar 2022

University of Malta

- Participated in a training program on the application of ML to gravitational wave research using PyTorch
- Converted study objectives into executable code for implementation within the LAMMPS simulation environment
- Developed a Python-based data processing pipeline to analyse tensile data generated from MD simulations
- Awarded the Masters Distinction Award in recognition of outstanding performance during the M.Sc. studies

Bachelor of Science (Honours) in Chemistry
Oct 2015 – Dec 2018

University of Malta

- Relevant courses: Calculus, Linear Algebra, Tensors, Probability Theory, Thermodynamics, Statistical Mechanics
- Achieved the highest grade on the final year thesis, a simulation study examining the tensile properties of graphene

NOTABLE PROJECTS

Replotter
VBA, Python, Matplotlib

- Developed a VBA macro to record pixel-based coordinates of key anatomical markers for a peer-reviewed article, later rewritten in Python as a data-point extraction tool to digitise graphical plots

Facebook Sentiment Tracker
Python, Pandas

- Developed a Facebook data crawler to analyze public sentiment during a governing party's internal election, processing 30,000+ reactions to identify key narrative trends and shifts in voter perception

Literature Analysis Toolkit
Python, Jupyter, Pandas, Scikit-learn, Gensim, NLTK, spaCy

- Developed an LDA-based topic modelling system for unsupervised document clustering that included a preprocessing pipeline with text extraction, lemmatisation, POS tagging, and domain-specific stopword removal

INTERESTS

- **Writing:** Maintain a digital knowledge base of 400+ notes with select insights published on my personal website
- **Languages**: Fluent in English and Maltese, conversational in Italian and French, studied Latin, German and Chinese, and currently learning Dutch
- **Sport**: Previously an amateur indoor-rowing practitioner, now enjoying long walks and the occasional 7K run