

Karl Kareem Melaimi

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Education:

Imperial College London

2018 - 2022

MEng Electronic and Information Engineering (Computer Engineering)

Grade 2:1

- Optimisation
- Probabilistic Inference
- Deep learning
- Mathematics for Machine Learning
- Probability & Stochastic Processes
- Decentralised Finance
- Signal Processing & Machine Learning for Finance

Wembley High Technology College

2010 - 2017

- A-Levels: Mathematics (A*), Further Mathematics (A*), Physics (A), AS-Economics(A)

Relevant Work Experience:

Aspect Capital, Quant Researcher, Execution Research

May 2022 - Now

- Initial developer/researcher of a greenfield build of KDB infrastructure for algorithm development, slippage measurement, trade scheduling and strategy implementation analysis
- Researching and pushing for the adoption of the use of LLMs company wide to assist with the research process, such as hypothesis generation. (I am very excited about how GPT4 will change the workplace!)

Aspect Capital, Investment Solutions & Quant Research Intern
2021

March 2021 - Oct

- Notable projects: Built a simulation environment for the **Investment Solutions** team in **Python**, integrated with **PowerBI**. It applied various **vectorised** methods to transform the PnL timeseries input into key statistics (**VaR**, **CARR**, **Drawdowns** etc) and graphical visualisations in an **interactive dashboard**.

Developed a low touch framework for **multivariate regression**, enabling colleagues to run regressions of macroeconomic variables against returns without looking at any code (**Python**, **SQL**).
- Built intraday reporting tools for the **Volatility Research** team in **MATLAB** which attributed PnL to **first & second order Greeks**, granting a more thorough understanding of the underlying market dynamics affecting our positions.

Gained familiarity with the nuances of option pricing as well as experience with productionising code (**Jenkins**, **Docker**, etc)
- Worked with **Systematic Global Macro** researchers to prepare a signal for a **research review**, this is IP sensitive so no details for you!
- Efforts culminated in a **full time offer** as a **Quantitative Researcher**!

Tudor Investment Corp, Quant Risk Analyst
2019

July 2019 - Sept

- Developing a range of tools for the Risk team in Python (Significant Bloomberg API use) used by **~10 people across £10B AUM**
- Acted as **Full Stack Developer** managing successful firmwide deployment across business (2k lines of production code live)
- Aiding traders in performing market analysis by providing **statistical analysis** and **data visualisation** to their workflow

Kaiku, (<https://www.kaiku.co/>) - Strategy & Deals

October 2018 - December 2019

- Reaching out to & handling **manual onboarding** of our start-ups & Investors
- **Leading** the product team, deciding/creating the content for our website & social media
- Consulting entrepreneurs, interviewing understand content requirements and start-up user needs

Bloomberg, Global Data Analyst, Economics
2018

Sept 2017 - Sept

- Carrying out data analysis within **Python**, using Pandas/NumPy/Matplotlib.
- Created a script used in monthly meetings to provide insights into stale tickers
- Data manipulation within **Excel/VBA** and internal Bloomberg tools for parsing data
- **100%** of client queries answered within Service-Level agreement time

Other Experience:

Jane Street, Electronic Trading Competition

October 2020

- Developed a novel trading strategy in a simulated market maintaining top 10 PnL rank... It all went wrong when I replicated code without changing the trade direction, causing me to buy a certain instrument without selling, incurring roughly 300k of debt. I have learned my lesson!

IMC, Quantitative Trading Workshop

October 2020

- Learned the basics of Option theory and implemented a few interesting strategies, including delta-one hedging. Please ask me about this!

Facebook, Analytics Academy 2020

October 2020

- Performed basic statistical analysis to discover insights about user habits from multiple datasets using Python, (NumPy, Pandas, etc), and present these to a panel at Facebook

Citadel, Trading Simulation Challenge
2020

November

- A comprehensive introduction into the roles of a hedge fund and market maker; challenges included manual market making to get to grips with the concept and then an automation challenge in python

Projects:

- Built a **MIPS1 CPU simulator (C++)**, a **C90 to MIPS Compiler (C++)** and a **C90 to Python translator (C++)**
- Built the backend (**RESTful API in Python**) of an app for identifying & aiding the recycling of rubbish on the street, **winning the 2019 Google BGN Hackathon**
- Developed real-time traffic sign detection software with a **Xilinx PYNQ-Z1 FPGA**, using **Vivado HLS & C**

Skills and Interests:

- Proficiency in **Python (PyTorch, NumPy, Pandas, Matplotlib, etc.)**, **C++**, **C** & **Arm Assembly**
- I have an interest in trivia and casual problem solving demonstrated by my participation and 3rd place position in the **Jane Street CStimathon**
- Frequently practice **Judo** (Brown belt), competing regularly in national competitions
- Member of the **Amos Bursary** which aims to enhance the professional careers of young black men through the provision of knowledge alongside academic, cultural and professional events
- Level 3 Personal Trainer and Spin Cycle Instructor
- Lover of all smooth, sexy, sultry music!! This includes RnB, Soul, Neo-Soul, Funk, etc...