Zhang Naifu

naifuzhang@gmail.com | +65 96619283 | funaizhang | funaizhang.github.io

Skills

Programming	Python, C++, kdb+ q, bash, Linux, Tensorflow, PyTorch, AWS, Docker, SQL, Golang
Mathematics	Statistics, Calculus, Linear algebra, Stochastic processes, Graph theory, Measure theory

Education

Tsinghua University | Aug 2018 – Aug 2020 | Beijing, China

MSc Advanced Computing

- Courses: Machine Learning, Deep Learning, Algorithms, Computer Organisation, OS, Distributed Systems, Control Theory, Embedded Systems, Natural Language Processing, Multimedia Technologies, Discrete Maths, Combinatorics, Stochastic Processes
- Machine learning project that used Partial CNN to decensor pixelation mask on human face images
- Achieved SOTA results on the Few-Rel relation extraction task using finetuned BERT model
- Implemented MLP, CNN, and RNN without machine learning libraries, and word2vec with
- Implemented sharded distributed system based on raft protocol
- FPGA-based design and implementation of MIPS32 ISA processor
- GPA 3.79/4.00; Beijing Scholarship 2019
- TA for Combinatorial Mathematics Spring 2020

University of Cambridge, St Edmund's College | Oct 2013 – Jun 2016 | Cambridge, UK

BA (Hons) Economics

- Elective courses: Econometrics, Mathematics and Statistics, Economic Theory and Analysis
- Final year dissertation applies the theory of Markov-switching GARCH model on USDCNH option volatility
- St Edmund's Tutorial Prize 2014 & 2015
- Class I 2014, Class I 2015, Class II.1 2016

Hwa Chong Institution | Jan 2005 – Dec 2010 | Singapore

- 7 A Level Distinctions; 2310/2400 in SAT I; 11 GCSE Distinctions

Professional Experience

Squarepoint Capital | Feb 2021 – Currently | Singapore

Quantitative Analyst in Intraday Equities Trading

- Maintained and debugged equities strategies in production, as well as researched and backtested new alphas
- Added newly engineered features to the firm's automated trading framework in C++ used by all investment teams
- Developed bespoke database and supporting library in KDB+ q for the desk
- Implemented monitoring of performance analytics, including signal performance and post-trade analytics (e.g. fill-rate and latency reports)

Barclays Investment Bank | Aug 2016 – Jul 2018 | London, UK

Macro Structuring

- Developed python and padla (in-house language) scripts to price, risk and backtest exotic option strategies
- Applied quantitative methods and conducted statistical and econometrical analysis to address business needs of clients, e.g. making inference and uncovering relationship between CMS spread and FX forward points

Goldman Sachs Inc | Apr 2014 – Apr 2014 | London, UK

Spring Week Intern

Research and Publications

- Currently working on a technique to learn meaningful embeddings from continuous time series, such as stock prices, using ideas from Word2Vec and cointegration test
- **LEOC: A Principled Method in Integrating Reinforcement Learning and Classical Control Theory**, *N Zhang, N Capel*, Proceedings of the 3rd Conference on Learning for Dynamics and Control, PMLR 144:689-701, 2021
- **MQA: Answering the Question via Robotic Manipulation**, *Y Deng et al.*, arXiv:2003.04641 [cs.AI], 2020

Skills and Interests

Sports	Active marathoner; St Edmund's College rower, Blades in Lent Bumps 2016
Subscription	3Blue1Brown, Computerphile, TwoSetViolin, TechLead, Quanta magazine