Zekang Cheng

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Experience

Market and Securities Services, Citigroup · **London, UK**
Quantitative analyst · *2019/08 – Now*

- Quant for STIRT (short term interest rate trading) and linear FX:
  - Analysed FX swap request data and developed a method to identify roll-over trades;
  - Implemented post-trade STIR-component aftermath calculation for NDF deals;
  - Built a data pipeline from scratch to process the booking data of voice FX & NDF trading;
  - Developed a PnL attribution model to measure the value of client flow for voice FX & NDF trading;
  - Improved the STIRT PnL valuation model by including derivatives and futures in risk matching calculation.
- Graduate rotations in foreign exchange options trading and quant:
  - Developed a flexible & efficient backtester for FX options trading strategies;
  - Backtested relative value trade strategies for FX options and performed PnL attribution;
  - Measured vega risk netting effect of vanilla FX option structures through backtesting.

Department of Engineering, University of Cambridge · **Cambridge, UK**
Ph.D. student in computational fluid dynamics · *2014/10 – 2019/01*

- Incorporated non-isothermal effects into the finite element code (in C) for isothermal multiphase flows;
- Developed a numerical treatment of interface topology change in an adaptive moving mesh system;
- Examined the accuracy & capability of the numerical method with benchmark tests and designed examples;
- Investigated drop collision and non-isothermal liquid bridge break-up through numerical simulation;

Market and Securities Services, Citigroup · **London, UK**
Off-cycle quant intern in Equities central risk Desk (CRD) · *2018/07 – 2018/12*

- Analysed the toxicity of equities flows into CRD and automated reporting of CRD's PnL attribution;
- Calibrated the trade volume profile used in transaction cost model of CRD's portfolio optimisation tool;
- Analysed the execution performance at different trading venues using the pre/post-trade quote price.

Education

Department of Engineering, University of Cambridge · **Cambridge, UK**
Ph.D. in Engineering, supervised by Dr. Jie Li. · *2014/10 – 2019/01*
Thesis: A moving mesh method for non-isothermal multiphase flows.

University of Science and Technology of China · **Hefei, China**
B.S. in Mechanics, enrolled in the Special Class for the Gifted Young (SCGY). · *2010/08 – 2014/06*
Thesis: A numerical and experimental investigation of a water droplet impact on an oil-air interface.

Skills & Languges

Computer skills: Python, C (*proficient*); C++, SQL, Git, LATEX(*intermediate*); C#, kdb+/q, Bash (*basic*).

Languages: Chinese (native) and English (fluent).

Miscellaneous

Other relevant projects:

- In 2019, I cleaned the trade & order book data of alter-coins from Binance, built regression models to predict alter-coin returns and implemented the online calculation of the prediction model;
- Practiced data science skills using Kaggle datasets, and won 1 solo bronze medal.

Publication: Cheng, Z. et al, 2020. An Exactly Force-Balanced Boundary-Conforming Arbitrary-Lagrangian-Eulerian Method for Interfacial Dynamics. *Journal of Computational Physics*, p.109237.

Hobbies: Swimming, cycling, running, reading and hillwalking.

Societies: Brighton Tri Club, Brighton Mitre Cycling Club, Cambridge University Hillwalking Club (Treasurer 2017), SGGY football team (freshers' team captain 2011)