Dr. Huang, Ruihong

Tel: +44 74 7399 9621
Email: ruihong.huang@gmail.com

1 PROFESSIONAL EXPERIENCE

- **Founder & Director, Vonde Consulting Ltd., UK** **01/2020 – present**
  - **Active portfolio construction and statistical abitrage** based on technical signals and high frequency econometric models, using crypto tick-level market data;
  - **High-frequency crypto trading and backtesting platform** using tick-level data, developed in Python and C++ with proper functional and unit tests, deployed by docker containers;
  - **Efficient backtesting system for low-frequency trading strategies** as a contractual project for a hedge fund, using level 3 market data, developed in Scala using Spark, deployed on AWS EMR;
  - **Water level prediction neural network** developed in Python using Tensorflow, trained on Tencent cloud, deployed for three cities in China.
- **Founder & Head of Development, frischdaten UG, Germany** **04/2015 – present**
  - **LOBSTER data engine** constructing NASDAQ order book and order flow, using TotalView-ITCH (level 3 market data stream), developed in Java 7.
- **Director, AES Credit-Suisse, UK** **07/2020 – 04/2022**
  - **Signal enhanced execution strategies** adjusting schedule-based execution algo, such as VWAP, by directional signals;
  - **Desk daily cover** including quant guidance for dev and data teams, research advice for junior quants, algo advice and customisation for clients.
- **Vice President, SMAD Barclays, UK** **08/2018 – 11/2019**
  - **Execution strategy enhancements** including customisable-titled VWAP, impact model for SOR;
  - **Desk daily cover** including TCA reports, algo advice for clients.
- **Vice President, AES Credit-Suisse, UK** **07/2016 – 08/2018**
  - **Commodities intra-day volume regime shift model** detecting volume curve break points using historical data;
  - **Adaptive VWAP** choosing the best VWAP sub-strategies based on client order characteristics in trading time using a machine learning model;
  - **New behavior of liquidty-seeking strategy** using a configurable continuous response function for Guerrilla algo.
- **Associate Director, Electronic Trading UBS, UK** **11/2013 – 07/2016**
  - **Pre-trade costs model** using an exponential kernel, providing a significant improvement on the pre-trade estimation;
  - **Stop-loss alert model** triggering an alarm when a particular stop-loss order likely causes a intra-day market turbulence;
  - **Dark IOC routing study** analyzing the liquidity gain and loss of SOR ALP tactics, suggesting a dynamic control on taking the liquidity from the dark pools.

- **Scientific Employee, QPL Deutsche Bank, Germany** **02/2008 – 07/2011**
  - **Financial econometric models** for the limit order book and the order flow.

2 EDUCATIONS AND DEGREES

- **Doctorate, Humboldt Universität zu Berlin, Germany** **02/2008 – 02/2012**
  - **Applied econometric models** on high frequency limit order book, order flow and dark liquidity using ultra-high-frequency level 3 market data;
  - **Graded as *summa cum laude*** recognising my extraordinary academic achievements.
- **Master student, Royal Inst. of Tech. (KTH), Sweden** **09/2006 – 02/2008**
  - **Applied mathematics** focusing on numerical methods for PDEs and the high-performance computation.
- **M.Sc., University of Copenhagen, Denmark** **04/2004 – 12/2007**
  - **Economics** including courses of macro, micro-economics and econometrics etc., and a thesis on derivative pricing with Lévy processes.

3 PUBLICATIONS

- Shen, Y. and R. Huang (2014) "Risk-averse reinforcement learning for algorithmic trading", Conference on Computational Intelligence for Financial Engineering & Economics (CIFEr), 2014 IEEE.
- Hautsch, N. and R. Huang (2012), "The market impact of a limit order", Journal of Economic Dynamics and Control, 36, 501 – 522.
- Hautsch, N. and R. Huang (2012), "Limit order flow, market impact and optimal order sizes: Evidence from NASDAQ TotalView-ITCH data" in: "Market Microstructure: Confronting Many Viewpoints", F. Abergel, J.-P. Bouchaud, T. Foucault, C. Lehal, M. Rosenbaum (eds.), Wiley Intersciences.
- Hautsch, N. and R. Huang (2012), "On the dark side of the market: Identifying and analyzing hidden order placements" Discussion Paper 2012-4, CRC 649, Humboldt Universität zu Berlin.
- Huang, R. and T. Xiao (2012), "How much can hidden liquidity improve the trading price" Working Paper, Humboldt Universität zu Berlin and Harvard University.
- Huang, R. and T. Polak (2011), "LOBSTER: Limit order book reconstruction system" Working Paper, Humboldt Universität zu Berlin.

4 PROGRAMMING SKILLS

- **Python** at professional level, using Numpy, Pandas and Scikit-learn for research purpose, integrating C++ libraries using Cython, familiar with Unit Test (including Mock) and type hint, strictly following PEP 8 coding style;
- **GIT and Docker** at professional level, using daily in development and deployment;
- **C++** at experienced level, familiar with GoogleTest for developing reliable libraries;
- **SQL** at experienced level, familiar with **MySQL, PostgreSQL** and **TimescaleDB**;
- **Linux user** with 20-year experience, familiar with most of the common tools;
- **Other programming languages and tools** including Matlab (10+ years), Rust, Java, Scala, KDB+/q, R, OneTick, Apache Spark and Redpandas/Kafka.