

Si Yuan Jin (Bruce)

MPhil-PhD of Information Systems, HKUST

Bachelor of Financial Technology, South China University of Technology

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EDUCATION

- **Hong Kong University of Science and Technology**

MPhil-PhD of Information Systems

Aug 2022 - Now

- Supervisor: Prof. Kar Yan Tam, Prof. Bei Zeng, Prof. Qiming Shao
- Interest: Technical & Empirical Financial Technology (Blockchain & Quantum Computing & AI)

- **South China University of Technology**

Bachelor of Financial Technology, GPA: 88.87/100 or 3.83/4.00 (Rank: 1/33)

Sep 2017 - Jul 2021

- Educational Award: 2019-2020 China National Scholarship (Top 0.1 - 0.2%)

PROJECTS & FUNDING

- **Empowering Hong Kong Finance with A Quantum Algorithm Platform (RIF, \$10m)**

In Progress

Research and development of quantum algorithm platform for financial application

- **RegTech - CBDC and Virtual Assets (Hong Kong Monetary Authority)**

In Progress

Regulatory technology development for Central Bank Digital Currencies and virtual assets

- **Evaluating CBDCs' Impact on Existing Payment Method Providers**

Nov 2022 - Now

e-HKD Market Power Research

- **Quantum Computing Initialization & Global Startups Due Diligence (HSBC)**

Mar 2021 - Mar 2022

Research and due diligence of quantum computing applications in global startups

- **Global CBDC Challenge (Monetary Authority of Singapore)**

May 2021 - Nov 2021

Design and Development of a Platform for Proposing CBDC Solutions

RESEARCH PAPERS (BLOCKCHAIN AND DIGITAL CURRENCY)

- **(Working Paper)** S. Jin, Z Li, A Huang, K Tam, "Green Token-based Platform" *2023*
- **(Working Paper)** M. Dordal i Carreras, K. Kawaguchi, S. Jin, E. Lai, P. Wang, "Evaluating CBDC's Impact on Payment Method Usage". *2023*
- **(Under Review)** S. Jin, Y Xia, B Xu, P. Intallura, "A UTXO-Based Sharding Approach with Zero-Knowledge Proof KYC for Regulated Digital Currencies". *2022*
- **(Published)** S. Jin, and Y Xia. "CEV Framework: A Central Bank Digital Currency Evaluation and Verification Framework." IEEE Access (Q1, 28/300). *2022*
- **(Published)** M Zhang, B Zhu, Z Li, S. Jin, Y Xia, "Relationships among return and liquidity of cryptocurrencies". Financial Innovation (Q1, 23/299). *2022*

RESEARCH PAPERS (COMPUTATIONAL ALGORITHMS FOR BUSINESS)

- **(Working Paper)** Y. Zhang, S. Jin, B Zeng, "Quantum Tokens in Practices". *2023*
- **(Under Review)** S. Jin, K Tam, B Zeng, Q Shao, Y Huang, Y Xia, B Zhu, Z Li, "FinQMC - A Quantum Leap in Monte Carlo Methods for Finance". *2023*
- **(Under Review)** Y Huang, S. Jin, B Zeng, Q Shao, "Adaptive Diversity-based Quantum Circuit Architecture Search". *2023*

CONFERENCE PAPERS

- **(Corresponding Author)** IEEE International Conference on Quantum Software (QSW), Chicago, USA
Y. Liu, C. Xu, S. Jin, "RL for Continuous Control: A Quantum Normalized Advantage Function Approach." *2023*
- **IEEE International Conference on Blockchain Computing and Applications (BCCA), San Antonio, USA**
S. Jin, Xu, B. T., Intallura, P., & Xia, Y. "A UTXO-based Sharding Method for Stablecoin." *2022*

SERVICE / OPEN SOURCE

- **Teaching Assistant** “Coding for Business”, ISOM 2020, HKUST *Feb - Apr 2023*
- **Teaching Assistant** “Blockchain Foundation”, SCUT *Feb - May 2021*
- **Reviewer** International Conference on Information Systems (ICIS) *May - Jun 2023*
- **Reviewer** Pacific Asia Conference on Information Systems (PACIS) *Mar - Apr 2023*
- **Reviewer** Quantum Information Processing (QIP) *Oct - Nov 2022*
- **Mentor** Data Driven Modeling MSc Program Research Project Mentor
Total 7 M.Sc. Students: Y. Liu received the **Best Presentation Award** *Oct 2022 - Jun 2023*
- **Initiator** Quantum Finance Literature: <https://github.com/siyuan-bruce/Quantum-Finance>
- **Initiator** Central Bank Digital Currency Literature: <https://github.com/siyuan-bruce/CBDC-Literature>
- **Contributor** design-and-analysis-of-algorithm <https://github.com/datawhalechina/design-and-analysis-of-algorithm>

INDUSTRIAL EXPERIENCE

- **HSBC Hong Kong** *Nov 2022 - Now*
Research Consultant
Hong Kong
 - Worked on e-HKD implementation, AI, and Quantum Computing projects
 - Worked on ChatGPT-based Simulation Model
- **HSBC Laboratory - Ventures, Innovation & Partnerships** *Jul 2020 - Aug 2022*
Quantum Computing & CBDC Research Engineer
Guangzhou, China
 - **2021 HSBC Top Performer | 2021 HSBC Role Model (Top 5%)**
 - Contributed to the creation of HSBC group’s quantum computing and CBDC strategy
 - Technical design and implementation in domestic and international CBDC projects, including E-CNY and E-HKD

PATENTS

- **Filed** Method for Integrating Moment of Squares Relaxations in Variational Quantum Algorithms For Enhanced Optimization. *May 2023*
- **Filed** Quantum Computing System for Portfolio Selection. *May 2023*
- **Filed** Transaction Security for Multi-tier Transaction Networks. *Dec 2022*
- **Filed** Network Analysis using optical quantum computing. *Dec 2022*
- **Filed** A Stablecoin Privacy Protection Method Based on Dynamic Virtual Address. *May 2022*
- **Filed** A Modular Analysis Method of Consensus Algorithm in Central Bank Digital Currency System. *Mar 2022*
- **Filed** Blockchain transaction sharding for improved transaction throughput. *July 2022*

AWARDS / HONORS

- **HKUST** HKUST Fintechstic NFT & Metaverse Competition Mentor (Total 10 People) *Nov 2022*
- **Monetary Authority of Singapore** Global CBDC Challenge Finalist (Top 5% in 50-country submissions) *Nov 2021*
- **SCUT** University-level excellent graduation thesis (Top 1%) *Jun 2021*
- **SCUT** China National Scholarship (Top 0.1%-0.2%) *Dec 2020*
- **SCUT** First prize of South China University of Technology (Top 1%) Twice *2019 & 2018*