Si Yuan Jin (Bruce)

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Bachelor of Financial Technology, SCUT
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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, Token & 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) IEEE Int. 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 Int. 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*

- **Ad hoc Reviewer** International Conference on Information Systems (ICIS)   *May - Jun 2023*

- **Ad hoc Reviewer** Pacific Asia Conference on Information Systems (PACIS)   *Mar - Apr 2023*

- **Ad hoc Reviewer** Quantum Information Processing (QIP)   *Oct - Nov 2022*

- **Mentor** Data Driven Modeling MSc Program Research Project Mentor
  7 M.Sc. Students in Total: 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*