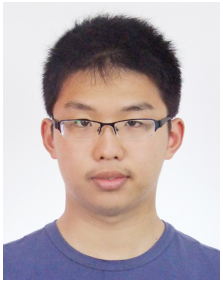
Ruan Pingcheng (PhD)



Gender: Male Nationality: China (Singapore PR)
Mobile Number: (+65) 9807 3466
Email Address：ruanpingcheng@gmail.com
Google Scholar: https://scholar.google.com/citations?user=Nm-24AUAAAAJ
Mailing Address:
Viva Vista, #03-21,
3 South Buona Vista Road, Singapore, 118136

Personal Statement

My research focuses on blockchains, and my general interest spans from distributed systems, databases to all other large-scale data processing platforms. During my PhD study, I am the award winner of VLDB 2019 Best Paper Award and SIGMOD 2020 Research Highlight Award. During my Bachelor study, I am the only student in my cohort who is in the Dean's List (top 5%) throughout academic years.

Education

National University of Singapore (NUS), Singapore *Jun 2016~Feb 2022*
Doctor of Philosophy (Computer Science)

- Supervised by Distinguished Prof OOI Beng Chin in School of Computing
- Thesis: *Blockchains: Novel Data Systems and Beyond*

Nanyang Technological University (NTU), Singapore *Jun 2012~Jun 2016*
Bachelor of Engineering (Computer Science)

- Graduated with **First Class Honors** from School of Computer Science and Engineering (SCSE)
- Specialized in High Performance Computing, Information System
- Obtained Grade Point Average: 4.86/5.00 (3rd in the cohort)

SM2 Bridging Program *Jun 2011~Jun 2012*

- Undertook a one-year pre-college program with English and Science courses, exclusively for SM2 scholars

Nanjing Foreign Language School, Jiangsu, China *Jun 2006~Jun 2011*
Middle School and High School

- Maintained top 5 percent on academic performance

Career

School of Computing (SoC), National University of Singapore
Research Fellow *Oct 2021~Feb 2022*
Research Assistant *Jun 2016~Oct 2021*

- Supervised by Distinguished Prof OOI Beng Chin
- Involved all blockchain-related systems in our team, including:
  - **BlockBench**: the first benchmarking framework for private blockchain systems. It serves as a fair means of comparison for different platforms and enables deeper understanding of different system design choices.
  - **ForkBase**: an efficient storage engine dedicated for blockchain and collaborative analysis systems. It is featured for its forking semantics, chunk-level deduplication and tamper-evidence.
  - **FabricSharp**: a variant of Hyperledger Fabric 2.2, a permissioned

blockchain platform from Hyperledger. Compared with the vanilla version, FabricSharp is renowned for fine-grained secure data provenance, state-of-the-art transaction management, and a blockchain native storage engine, ForkBase.

Institute of High Performance Computing, Agency of Science, Technology and Research (A*Star), Singapore *Jan 2015~May 2015*

Student Assistant (Intern)

- Supervised by Dr. WANG Zhaoxia
- Transformed the cutting-edge sentiment analysis research work into ready-to-use products. I built an interactive web system that prompts a user for a keyword, continuously pulls tweets about the keyword, applies state-of-the-art sentiment analysis and labels results on a Google map.

Publications

- Z. Ge, D. Loghin, B. C. Ooi, **P. Ruan**, T. Wang: Hybrid Blockchain Database Systems: Design and Performance. **VLDB 2022**
- **P. Ruan,** A. Dinh, D. Loghin, M. Zhang, G. Chen, Q. Lin, B. C. Ooi: Blockchains and Distributed Databases: Dichotomy and Fusion. **ACM SIGMOD 20211**
- **P. Ruan**, D. Loghin, Q.-T. ta, M Zhang, G. Chen, B. C. Ooi: *A Transactional Perspective on Execute-Order-Validate Blockchains.* **ACM SIGMOD 2020**
- **P. Ruan**, A. Dinh, Q. Lin, M. Zhang, G. Chen, B. C. Ooi: *Revealing Every Story of Data in Blockchain Systems.* **ACM SIGMOD 2020 RESEARCH HIGHLIGHT AWARD**
- Q. Lin, K. Yang, A. Dinh, Q. Cai, G. Chen, B. C. Ooi, **P. Ruan** , S. Wang, Z. Xie, M. Zhang, O. Vandans: *ForkBase: Immutable, Tamper-evident Storage Substrate for Branchable Applications.* **IEEE ICDE 2020 Demo**
- **P. Ruan**, G. Chen, A. Dinh, Q. Lin, B.C. Ooi, M. Zhang: *FineGrained, Secure and Efficient Data Provenance on Blockchain Systems.* **VLDB 2019 BEST PAPER** (the extended version published in **The VLDB Journal 2021**)
- S. Wang, T. T. A . Dinh, Q. Lin, Z. Xie, M. Zhang, Q. Cai, G. Chen, B.C. Ooi, **P. Ruan** : *ForkBase: An Efficient Storage Engine for Blockchain and Forkable Applications.* **VLDB 2018**
- A. Dinh, J. Wang, S. Wang, G. Chen, W.-N. Chin, Q. Lin, B. C. Ooi, **P. Ruan**, K.-L. Tan, Z. Xie, H. Zhang, and M. Zhang: *UStore: a distributed storage with rich semantics.*
- **P. Ruan**, G. Chen, A. Dinh, Q. Lin, D. Loghin, B. C. Ooi, M. Zhang: Blockchains and Distributed Databases: A Twin Study

Awards

- ACM SIGMOD Research Highlight Award, 2020
- Dean's Graduate Research Excellence Award, SoC NUS, 2020
- VLDB Best Paper Award, 2019
- Graduate Research Excellence Award, SoC NUS, 2019
- Hewlett-Packard Gold Medal, SCSE NTU, 2016
- Dean’s List, SCSE NTU, 2016
- Dean’s List, SCSE NTU, 2015
- Dean’s List, SCSE NTU, 2014
- Dean’s List, SCSE NTU, 2013
- 15th SM2 Scholarship, Ministry of Education, Singapore, 2012