# Shuhao Zhang                                  shuhao.zhang@comp.nus.edu.sg

### EDUCATION

**Ph.D. in Computer Science**                                              2019

National University of Singapore, Singapore (NUS)*

Supervisor: Prof. Bingsheng He

*: 2014∼2016 in Nanyang Technological University with the same supervisor

**B.E(hons) in Computer Engineering**                                     Aug 2014

Nanyang Technological University (NTU), Singapore (*GPA 4.83/5*)

FYP Supervisor: Prof. Bingsheng He

### AWARDS

- Research Achievement Award (NUS)                              2018 – 2019
- SIGMOD 2019 Travel Award                                              2019
- SAP PhD Research Scholarships                                 2014 – 2018
- Research Achievement Award (NUS)                              2017 – 2018
- Dean's list student (NTU)                                    2010 – 2013
- Best peer tutor/coach awards (NTU)                           2012 – 2013
- AY11-12 URECA Certificate (NTU)                              2011 – 2012
- Senior Middle 3 Singapore Government Undergraduate Scholarship   2010 – 2014

### CONFERENCE PUBLICATIONS

1. **Shuhao Zhang**, Yingjun Wu, Feng Zhang, Bingsheng He, "Scaling Consistent Stateful Stream Processing on Shared-Memory Multicore Architectures" *Under Review*

2. Jieliang Ang, Tianyuan Fu, Johns Paul, **Shuhao Zhang**, Bingsheng He, Teddy Sison David Wenceslao, Sien Yi Tan, "TraV: An Interactive Trajectory Exploration System For Massive Data Sets" *The Fifth IEEE International Conference on Multimedia Big Data (IEEE BIGMM) demo track, 2019*

3. **Shuhao Zhang**, Jiong He, Amelie Chi Zhou, Bingsheng He, "BriskStream: Scaling Data Stream Processing on Shared-Memory Multicore Architectures" *International Conference on Management of Data (SIGMOD), 2019*, citation:0

4. **Shuhao Zhang**, Bingsheng He, Daniel Dahlmeier, Amelie Chi Zhou, Thomas Heinze, "Revisiting the design of data stream processing systems on multi-core processors" *IEEE International Conference on Data Engineering (ICDE), 2017, citation:14*

5. **Shuhao Zhang**, Hoang Tam Vo, Daniel Dahlmeier, Bingsheng He, "Multi-Query Optimization for Complex Event Processing in SAP ESP" *IEEE International Conference on Data Engineering (ICDE), 2017, citation:5*

6. Shanjiang Tang, Bingsheng He, **Shuhao Zhang**, Zhaojie Niu, "Elastic Multi-Resource Fairness: Balancing Fairness and Efficiency in Coupled CPU-GPU Architectures" *ACM/IEEE Supercomputing Conference (SC), 2016, citation:13*.

7. Jiong He, **Shuhao Zhang**, Bingsheng He, "In-Cache Query Co-Processing on Coupled CPU-GPU Architectures", International Conference on Very Large Data Bases (VLDB), 2014, citation:65.

8. **Shuhao Zhang**, Jiong He, Bingsheng He, Mian Lu, "OmniDB: Towards Portable and Efficient Query Processing on Parallel CPU/GPU Architectures" *International Conference on Very Large Data Bases (VLDB) demo track, 2013, citation:53*.

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| JOURNAL PUBLICATIONS | 1. **Shuhao Zhang**, Feng Zhang, Yingjun Wu, Paul Johns, Bingsheng He, "Hardware-Conscious Stream Processing: A Survey" *Under minor revision in SIGMOD Record, impact factor:1.366, citation:0* |

JOURNAL PUBLICATIONS

1. **Shuhao Zhang**, Feng Zhang, Yingjun Wu, Paul Johns, Bingsheng He, "Hardware-Conscious Stream Processing: A Survey" *Under minor revision in SIGMOD Record, impact factor:1.366, citation:0*

2. Feng Zhang, Jidong Zhai, Bingsheng He, **Shuhao Zhang**, Wenguang Chen, "Understanding Co-running Behaviors on Integrated CPU/GPU Architectures" *IEEE Transactions on Parallel & Distributed Systems (TPDS), 2017, impact factor:3.402, citation:26*

3. Zeke Wang, **Shuhao Zhang**, Bingsheng He,Wei Zhang, "Melia: A MapReduce Framework on OpenCL-Based FPGAs" *IEEE Transactions on Parallel & Distributed Systems (TPDS), 2016, impact factor:3.402, citation:32*.

PATENTS

1. **Shuhao Zhang**, Bingsheng He, Daniel Hermann Richard Dahlmeier, "Efficient execution of data stream processing systems on multi-core processors", *US Patent App. 15/348,932*, 2018.

2. **Shuhao Zhang**, Hoang Tam Vo, Daniel Hermann Richard Dahlmeier, Bingsheng He, "Multi-query optimizer for complex event processing", *US Patent App. 9,953,056*, 2018.

WORK EXPERIENCE

**Research Scientist II (RSE 3)**　　　　　　　　　　　　　　Sep 2019 – present
Institute for Infocomm Research A*STAR, Singapore
My research involves investigating high performance secure data processing at edge with Intel SGX.

**Research Fellow/Assistant**　　　　　　　　　　　　　　Aug 2018 – Sep 2019
NUS-Grab AI Lab Singapore
My research involves investigating new opportunities to enhance real-time trajectory data management including design of scalable trajectory query processing systems.
*A trajectory query processing and visualization system is developed by students under my co-supervision, and a demo paper is published.*

**Research Associate (Ph.D scholars)**　　　　　　　　　　　Aug 2014 – Aug 2018
Research & Innovation, SAP Singapore
My research involves investigating new opportunities to enhance complex event processing including design of new framework with related techniques and software modules.
*Two patents filed with me being first inventor.*

**Research Assistant (Internship)**　　　　　　　　　　　　Jun 2012 – Aug 2013
Division of DCT, Data Storage Institute
Contributed on varies projects of cloud security area.