

Education

- 2011 – 2015.8 **Doctor of Philosophy**, Computer Science Department, **Hong Kong Baptist University (HKBU)**, Hong Kong, China
Advisors: Dr. Byron CHOI and Prof. Jianliang XU
- 2014.10 – 2015.3 **Research Visitor**, School of Informatics, **University of Edinburgh**, Edinburgh, United Kingdom
Advisor: Prof. Wenfei FAN
- 2007 – 2011 **Bachelor of Engineering**, School of Computer Science and Engineering, **South China University of Technology (SCUT)**, Guang Zhou, China
(GPA – 86.3/100, 3.7/4.0)

Professional Experience

- 2014.10 – 2015.3 **Knowledge Base**, University of Edinburgh
Knowledge base can be expressed as *graph*. We proposed *keys for graph*, which finds applications in Object Identification, Knowledge Fusion and Social Network Reconciliation, etc. We solved *Entity Matching* problem using keys in Big Data (Graph), and developed two parallel scalable algorithms, in MapReduce and Vertex-centric Asynchronous model.
- 2011 – 2014 **Graph Query Processing**, Hong Kong Baptist University
Confidentiality and Integrity of data are crucial security issues for query services. We designed *privacy-preserving* and *authenticated* graph query services, to support both subgraph and reachability query and protect the security of users' data, in which cryptography was adopted. Numbers of top-ranked journal and conference papers in databases area were published.
- 2013 **APPs Development**, Privatera Group, Hong Kong
I assisted in developing a secure network disk system, called "iSafebin". I mainly developed the RESTful API, e.g., supporting account management, secure file storage and transfer, using Node.js and MongoDB.
- 2010.8 – 2010.10 **Summer Intern**, Tencent, ShenZhen, China
I involved an internship in Tencent. I optimized internal platforms, e.g., Operation Center and Sharing Center, for Internet Service Department (ISD), using techniques like PHP, MySQL, JavaScript and Ajax.

Student Activities

- 2013 – 2014 **Student Representative**, Computer Science Department, HKBU
I represented all Postgraduate students in Science Faculty Board. I was the coordinator for Postgraduate activities in the department, and the student representative for PhD Student Experience Programme.
- 2009 – 2010 **President**, Student Union, School of Computer Science and Engineering, SCUT
I organized lots of campus activities, cooperated and established friendship with student organizations in the university. The leadership, communication ability, teamwork and responsibility were well-built in this period. In all, it gives me an incredible experience that is invaluable for the rest of my life.

Awards

- 2011 – 2015 **4-year PhD Studentship**, HKBU
- 2015 **Yakun Scholarship Scheme for Mainland Postgraduate Students**, Computer Science Department, HKBU
- 2014 **Research Scholarship** for Overseas Attachment, Computer Science Department, HKBU
- 2013 **Best Paper Award**, 16th Postgraduate Day, Computer Science Department, HKBU
- 2012 – 2014 Outstanding Teaching Assistant, Computer Science Department, HKBU
- 2009 Innovation and Technology of Tencent **Scholarship**, SCUT
- 2009 **First prize** of Multimedia Competition, SCUT
- 2009 Third prize of Computer Innovation & Entrepreneurship Competition (**First prize** in Undergraduates), SCUT
- 2009 Outstanding Student Leader, SCUT
- 2008, 2010 Second-class **Scholarship**, SCUT
- 2008 – 2010 Three Good Student, SCUT

Achievements

*TKDE (ICDE, PVLDB) is (are) **top-ranked** journal (conferences) in databases area by Microsoft Academic Research.*

- 2015 W. Fan, **Z. Fan**, C. Tian, X. Dong. "Keys for Graphs". *International Conference on Very Large Data Bases (PVLDB'15)*. Full Paper.
 - Z. Fan**, B. Choi, Q. Chen, J. Xu and S. Bhowmick. "Structure-Preserving Subgraph Isomorphism Query Services". *IEEE Transactions on Knowledge and Data Engineering (TKDE'15)*. Full Paper.
 - Z. Fan**, B. Choi, J. Xu and S. Bhowmick. "Asymmetric Structure-Preserving Subgraph Queries for Large Graphs". *IEEE International Conference on Data Engineering (ICDE'15)*. Full Paper.
 - X. Xie, **Z. Fan**, B. Choi, P. Yi, S. Bhowmick and S. Zhou. "PIGEON: Progress Indicator for Subgraph Queries". *IEEE International Conference on Data Engineering (ICDE'15)*. Demo Paper.
- 2014 Y. Peng, **Z. Fan**, B. Choi, J. Xu and S. Bhowmick. "Authenticated Subgraph Similarity Search in Outsourced Graph Databases". *IEEE Transactions on Knowledge and Data Engineering (TKDE'14)*. Full Paper.
 - P. Yi, **Z. Fan**, and S. Yin. "Privacy-Preserving Reachability Query Services for Sparse Graph". *IEEE International Conference on Data Engineering (ICDE'14) GDM Workshop*. Short Paper.
 - S. Yin, **Z. Fan**, P. Yi, B. Choi, J. Xu and S. Zhou. "Privacy-Preserving Reachability Query Services". *International Conference on Database Systems for Advanced Applications (DAS-FAA'14)*. Full Paper.
- 2013 **Z. Fan**, Y. Peng, B. Choi, J. Xu and S. Bhowmick. "Towards Efficient Authenticated Subgraph Query Service in Outsourced Graph Databases". *IEEE Transactions on Services Computing (TSC'13)*. Full Paper.

U.S. Patent

- 2015 Choi Koon Kau (Byron) and **Zhe Fan**. "Structure-Preserving Subgraph Queries". No. 62170122. Filed on 2 June 2015. (Provisional)

Skills

Languages	English, Cantonese, Mandarin
Programming Languages	C/C++, SQL, Scala, Java, JavaScript, Python, PHP
Programming Techniques	MapReduce (Hadoop), Pregel (Spark/GraphX), Android, MongoDB, Node.js, Eclipse, Matlab, Vim, Git, Linux, \LaTeX , Visual Studio, Office
Analytical Techniques	Regression analysis, Clustering, SVM, Neural Network, Constraint Satisfaction Programming, MCMC, Random Walk

Presentations

- 2015 **Z. Fan.** "Asymmetric Structure-Preserving Subgraph Queries for Large Graphs". ICDE, Seoul, Korea.
- 2014 **Z. Fan.** "Querying a Graph Database You can Trust". Audaque Technology, Shen Zhen, China.
- 2014 **Z. Fan.** "Privacy-Preserving Reachability Query Services for Sparse Graph". ICDE GDM Workshop, Chicago, USA.
- 2013 **Z. Fan.** "Querying a Graph Database You can Trust". Kyoto University, Kyoto, Japan.

Referees

Available Upon Request.