Guanli Liu

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🖉 Summary

I am a third-year PhD student at the University of Melbourne. My research interest is using machine learning technology to build database indices, e.g., B-trees and R-trees. Before UoM, I was a senior researcher and developer in Baidu Inc. in Beijing, China.

⚙ Skills

- Programming Languages: Java, Python, C++, Kotlin, SQL
- Development: Java Web, Android
- Machine Learning: TensorFlow, PyTorch, TorchLib, Scikit-learn, Weka,
- Methodologies: Agile, Scrum
- Research: LaTex, Spatial Database, Learned index

👥 Experience

Baidu Inc. Beijing, China   Jul. 2015 – Aug. 2017

Senior Researcher and Developer   Android developer

Our team develops enterprise intelligent work platform [**infoflow**], which supports Desktop, iOS, and Android. I worked in an Android Development group with around ten engineers, focusing on Instant Messaging (IM) development. We pay attention to team work and each single task is finished with PM, UI, UE, QA and interior code review. Key contributions are as follows:

- Message design: protocol design, Recall message, Delete message, Red pocket Message, etc
- Heartbeat mechanism:
- Voice assistant: Voice recognition SDK integration, send message, order meeting room, etc
- Application centre: Configure and manage enterprise applications

The University of Melbourne Victoria, Australia   Aug. 2019 – Present

Tutor   Comp90018 (Mobile Computing)

- Android development introduction and project guidance
- Assignment marking and feedback

Tutor   Comp90041 (Programming and Software Development)

- Java development introduction and questions demonstration
- Assignment marking and feedback

Neusoft Shenyang, China   Jun. 2012 – Sep. 2012

Software Engineer (internship)   Java Web development

- Building a logistics management system with Java EE (Struts + Spring + Hibernate)

🎓 Education

The University of Melbourne, Melbourne, Australia   2019 – Present

PhD Candidate in Computing and Information System, expected December 2022

Northeastern University, Shenyang, China   2013 – 2015

M.S. in Computer Technology

Northeastern University, Shenyang, China   2009 – 2013

B.S. in Software Engineering

⎙ Published Papers

- Guanli Liu, Lars Kulik, Xingjun Ma, Jianzhong Qi. A Lazy Approach for Efficient Index Learning. arXiv preprint arXiv:2102.08081. [**source code**]
- Jianzhong Qi (supervisor), Guanli Liu, Christian S. Jensen, and Lars Kulik. Effectively Learning Spatial Indices. PVLDB, 13(11): 2341-2354, 2020. [**source code**]
- Yu Gu (supervisor), Guanli Liu, Jianzhong Qi, Hongfei Xu, Ge Yu, and Rui Zhang. The Moving K Diversified Nearest Neighbor Query. TKDE, 28(10): 2778-2792, 2016.

♡ Honors and Awards

Performance appraisal in Baidu *Top 20%*	2016
Outstanding master student *Top 5%*	2014
3rd *Prize* prize of American college students' mathematical modelling contest	2011
3rd *Prize* prize of Google Android application development in China	2011