Qi Liu

CONTACT INFORMATION	School of Computing National University of Singapore Linkedin: https://sg.linkedin.com/in/leuchine Github: https://github.com/leuchine Homepage: http://qiliu.tech	+65 98261235 qiliu@u.nus.edu

RESEARCH INTERESTS

Natural Language Processing, Machine Learning, Deep Learning, Data Mining and Blockchain.

EDUCATION

National University of Singapore, Singapore

Master of Science, Computer Science, 2014 - 2016

- Thesis: *Automatic Annotation Management Through Document Enrichment and Transfer*
- GPA: 4.07/5

Shandong University, China

Bachelor of Engineering, Computer Engineering, 2010 - 2014

- Thesis: *Big Data Parallelization Techniques and Applications*
- GPA: 84.7/100

RESEARCH EXPERIENCE

Research Intern, Microsoft Research, Cambridge Machine Intelligence and Perception Group	2018.04 - 2018.07
Research Assistant, Temasek Lab, SUTD, Singapore Advisor: Prof. Yue Zhang	2017.02 - 2018.04
Research Intern, Microsoft Research, Beijing Advisor: Dr. Ying Yan, Dr. Thomas Moscibroda	2016.09 - 2016.12
Blockchain Advisor, Yunphant Blockchain, China	2016.07 - 2016.09
Data Scientist, Holmusk, Singapore	2015.04 - 2015.10
Teaching Assistant, National University of Singapore Advisor: Prof. Tan Chew Lim, Prof. Tan Kian Lee	2015.08 - 2016.03
Research Assistant, SeSaMe Research Centre, NUS Advisor: Prof. Anthony Tung, Prof. Mohan Kankanhalli	2014.12 - 2016.05
Research Intern, Chinese Academy of Sciences, China	2013.07 - 2013.10
Engineer Intern, Cloud Computing, IBM, China	2013.01 - 2013.4

PUBLICATIONS

1. **Qi Liu**, Yue Zhang. "Mining Evidences for Concept Stock Recommendation". *The North American Chapter of the Association for Computational Linguistics (NAACL), 2018*, pp. 1–10.

2. **Qi Liu**, Yue Zhang, Jiangming Liu. "Learning Domain-specific Representations for Multi-Domain Sentiment Classification". *The North American Chapter of the Association for Computational Linguistics (NAACL), 2018*, pp. 1–10.

3. **Qi Liu**, Yue Zhang, Zhenguang Liu, Ye Yuan, Li Cheng, Roger Zimmermann. "Multi-modal Multi-task Learning for Automatic Dietary Assessment". *Association for the Advancement of Artificial Intelligence (AAAI), 2018*, pp. 1–8.

4. Yixuan Tang, Weilong Huang, **Qi Liu**, Anthony K.H. Tung, Xiaoli Wang, Jisong Yang and Beibei Zhang. "QALink: Enrich Text Documents with Relevant Q&A Site Contents". *ACM International Conference on Information and Knowledge Management (CIKM), 2017*, pp. 1–10.

5. Yang Li, Kai Zheng, Ying Yan, **Qi Liu**, Xiaofang Zhou. "EtherQL: A Query Layer for Blockchain". *International Conference on Database Systems for Advanced Applications (DASFAA), 2017*, pp. 556–567.

6. Zhenguang Liu, Yingjie Xia, **Qi Liu**, Qinming He, Yanxiang Chen, Roger Zimmermann. "Towards Personalized Activity Level Prediction in Community Question Answering Websites". *ACM Transactions on Multimedia Computing, Communications and Applications (TOMM), 2017*, pp. 1–15

7. Butian Huang, Zhenguang Liu, Jianhai Chen, Anan Liu, **Qi Liu**, Qinming He. "Behavior Pattern Clustering in Blockchain Networks". *Multimedia Tools and Applications (MTAP), 2017*, pp. 1-12 (in the news)

8. Zhenguang Liu, Luming Zhang, **Qi Liu**, Yifang Yin, Li Cheng, Roger Zimmermann. "Fusion of Magnetic and Visual Sensors for Indoor Localization: Infrastructure-free and More Effective". *IEEE Transactions on Multimedia (TMM), 2016*, pp. 874–888.

9. Shubham Goyal, **Qi Liu**, Khairina Tajul-Arifin, Waqas Awan, Bimlesh Wadhwa, Zhenguang Liu. "I Ate This: A Photo-based Food Journaling System with Expert Feedback". *ACM Special Interest Group on Computer-Human Interaction (SIGCHI), 2016*, pp. 1-4 (in the news)

10. Qiang Hu*, **Qi Liu***, Xiaoli Wang*, Anthony K.H. Tung, Shubham Goyal, Jisong Yang. "DocRicher: An Automatic Annotation System for Text Documents Using Social Media". *ACM Special Interest Group on Management of Data (SIGMOD), 2015*, pp. 901-906 (* equal contribution)

PAPERS IN PREPARATION

1. **Qi Liu**, Ying Yan, Yang Chen, Thomas Moscibroda. "ConsortiumDB: A Consortium Cloud Database with Smart Contract". Submitted to VLDB

2. Zhenguang Liu, **Qi Liu**, Li Cheng. "LieGroup-LSTM: 3D Articulated Fish Pose and Trajectory Prediction from Depth Images". Submitted to IJCAI.

3. Yue Zhang, **Qi Liu**, Linfeng Song. "mLSTM: An Efficient and Effective Neural Architecture through Message Passing". Submitted to ACL.

PATENT

1. **Qi Liu**, Yang Chen, Ying Yan, Thomas Moscibroda. "A Programmable SmartContract Defined Database." (US patent, filed date 17/03/2017, Part of the project Microsoft Coco)

2. Zhenguang Liu, **Qi Liu**, Butian Huang. "Automatic SmartContract Categorization with Neural Network." (CN patent, filed date 17/12/2016)

AWARD

Lee Kuan Yew Global Business Plan Competition Winner (3 out of 550)	2017
Microsoft Star of Tomorrow Excellence Award	2016
ACM SIGMOD Travel Grant	2015
Winner, Predict Exacerbation in Patients with COPD, CrowdANALYTIX	2015
Winner, Changing the Landscape of Healthcare in US, CrowdANALYTIX	2015
NUS Research Scholarship	2014 - 2016

SERVICE

Secondary Reviewer, NAACL, 2018
Secondary Reviewer, AAAI, 2018
Reviewer, Neurocomputing, 2017
Reviewer, Multimedia Tools and Applications, 2016

TEACHING	CS5344 Big Data Analytics Technology, 2015/2016 semester 2
	CS3244 Machine Learning, 2015/2016 semester 1

SKILLS **English**: Toefl: 104 (R29, L27, S22, W26), GRE: 329 (V159, Q170, AW3.5)
Programming: Python, Java, C/C++, Javascript
Toolkits: Tensorflow, Hadoop, Spark, Git, MongoDB, MySQL, LaTeX

PROJECT **Readpeer for social reading:**
A social reading and online annotation system implemented in Java Spring framework. People can make and share annotations on the system. The system can also enrich the documents automatically with social media feeds like tweets.

Discharge summary drug-ADE relationship extraction:
Classify whether the drug causes the adverse effect. The accuracy on drug-AE relationship is 80%. The project is in collaboration with Singapore Health Sciences Authority.

Blockchain as a service:
I build a consortium blockchain database with smart contract on Microsoft Azure in Python. The system is efficient, secure, immutable and verifiable. Also, the system can cater a wide range of applications.

A basic HTTP server that supports HTTP/1.1 in C++:
Can handle at least 10,000 concurrent connections and serve at least 100,000 requests per second on a modern personal computer.

Indoor positioning based on image features and geomagnetic signals:
I use convolutional neural network to extract image features and mobile phones to collect geomagnetic signals. Particle filtering are adopted to perform predictions.The final accuracy is 89.3% on the test dataset.

Predict Exacerbation in patients with COPD:
An online competition in CrowdANALYTIX. I perform some preprocessing procedures such as onehotencoding, Chi Square test and use SVM with RBF kernel to solve the challenge. We are the winner of this online competition.

COURSES Computer Architecture, Java, Discrete Mathematics, Middleware Technology, Numerical Computing, Algorithm Analysis, Computer Networks, Linux Kernel, Software Engineering, Machine Learning, Operating System, Database, Compiler, Data Mining, Distributed System, Data Mining, Speech Processing, Probabilistic Graphical Models, Optimization, Linear and Integer Programming, Matlab, Convex Optimization, Data Visualization, Convolutional Neural Network, Mining Massive Datasets, Natural Language Processing, Parallel Programming With CUDA, Analytics Edge, Artificial Intelligence, Deep Learning for Natural Language Processing