

# Zhiqian Chen

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## EDUCATION

- Virginia Tech**, Virginia, United States  
- *Ph.D.*, Computer Science, Aug '14 - Jul '20  
**Peking University**, Beijing, China  
- *MEng*, Software Engineering, Sep '10 - Jul '13  
**Huazhong University of Sci. & Tech.**, Wuhan, China  
- *BSc*, Software Engineering, Sep '05 - Jul '09  
- *BSc*, Japanese Language, Sept '07 - Jul '09

## WORK EXPERIENCE

- Mississippi State University**, MS, U.S.  
- *Assistant Professor*: Computer Science and Engineering, Aug '20 - present  
**Toyota Research Institute North America**, MI, U.S.  
- *Research Intern*: Machine learning for material researchg, May '16 - Aug '16  
- **Award**: *Outstanding Contribution Award* by Toyota Research.  
**Baidu Inc.**  
- *Research and Development*: Data mining on user behavior pattern, Jul '11 - Aug '13  
- **The Best Team in 2012** at Baidu Inc. (Top 3)

## PUBLICATIONS

- Subhodip Biswas, Fanglan Chen, **Zhiqian Chen**, Chang-Tien Lu, and Naren Ramakrishnan. "Incorporating do-main knowledge into Memetic Algorithms for solving Spatial Optimization problems". *In Proceedings of the 28th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (SIGSPATIAL)* 2020. (**Best Paper Award**)
- Fanglan Chen, **Zhiqian Chen**, Subhodip Biswas, Lei Shuo, Chang-Tien Lu, and Naren Ramakrishnan. "Graph convolutional networks with Kalman filtering for traffic prediction". *In Proceedings of the 28th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (SIGSPATIAL)* 2020.
- Ying Zhang, Xingfeng He, **Zhiqian Chen**, Qiang Bai, Charles A.Roberts, Debasish Banerjee, Tomoya Matsunaga, Yifei Mo, Chen Ling. "Unsupervised Discovery of Solid-State Lithium Ion Conductors". **Nature Communications** (IF: 11.880, h5-index: 260), 2019. DOI: 10.1038/s41467-019-13214-1 [Selected as 22nd of Top 50 Chemistry and Materials Sciences Articles in Nature Communications. ([Top 50 Collection](#))]
- Zhao Ding, **Zhiqian Chen**, Leon Shaw, Tianyi Ma, Wenhui Ma, Chang-Tien Lu. "Predicting the Hydrogen Release Ability of  $LiBH_4$ -based Mixtures by Ensemble Machine Learning". **Energy Storage Materials**. DOI: 10.1016/j.ensm.2019.12.010 (accepted, IF: 15.97)
- Subhodip Biswas, Fanglan Chen, Andreea Sistrunk, Nathan Self, **Zhiqian Chen**, Chang-Tien Lu, Naren Ramakrishnan, "Geospatial Clustering for Balanced and Proximal Schools", *Proceedings of the Tenth AAAI Symposium on Educational Advances in Artificial Intelligence (AAAI-EAAI)*, New York, NY, February 8-9, 2020.
- Zhiqian Chen**, Gaurav Kolhe, Setareh Rafatirad, Chang-Tien Lu, Sai Manoj Pudukotai Dinakarrao , Houman Homayoun and Liang Zhao. "Estimating the Circuit Deobfuscating Runtime based on Graph Deep Learning". *Design, Automation, and Test in Europe (DATE)*, 2020. (acceptance rate: 26%)
- Subhodip Biswas, Fanglan Chen, **Zhiqian Chen**, Andreea Sistrunk, Nathan Self, Kaiqun Fu, Chang-Tien Lu, Naren Ramakrishnan. "REGAL: A Regionalization framework for school boundaries". *Proceeding of the 27th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (SIGSPATIAL)*, Paper ID: 258, Chicago, IL, Nov. 5-8, 2019. DOI: 10.1145/3347146.3359377
- Taoran Ji, **Zhiqian Chen**, Nathan Self, Kaiqun Fu, Chang-Tien Lu, Naren Ramakrishnan. "Patent Citation Dynamics Modeling via Multi-Attention Recurrent Networks". *Proceedings of the 28th International Joint Conference on Artificial Intelligence (IJCAI)*, pp. 2621-2627, Macao, China, Aug. 10-16, 2019. DOI: 10.24963/ijcai.2019/364 (Acceptance rate: 17.8%)
- Zhao Ding, Shaoyuan Li, Yang Zhou, **Zhiqian Chen**, Weijie Yang, Wenhui Ma, Leon Shaw. " $LiBH_4$  for hydrogen storage - New perspectives". **Nano Materials Science**, 2019. DOI: 10.1016/j.nanoms.2019.09.003
- Zhiqian Chen**, Feng Chen, Rongjie Lai, Xuchao Zhang, Chang-Tien Lu. "Rational Neural Networks for Approximating Jump Discontinuities of Graph Convolution Operator". *Proceedings of the IEEE*

- International Conference on Data Mining (ICDM)*, pp. 59-68, Singapore, Nov. 17-20, 2018. DOI: 10.1109/ICDM.2018.00021 (Acceptance rate: 8.86% Full Paper)
- 11 Kaiqun Fu, **Zhiqian Chen**, Chang-Tien Lu. "StreetNet: Preference Learning with Convolutional Neural Network on Urban Crime Perception". *Proceeding of the 26th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (SIGSPATIAL)*, Seattle, WA, Nov. 6-9, 2018. DOI: 10.1145/3274895.3274975
  - 12 Manu Shukla, **Zhiqian Chen**, Chang-Tien Lu. "DIMPL: A Distributed In-Memory Drone Flight Path Builder System". *Journal of Big Data*, Springer, July 2018, Vol. 5, No.24. DOI: 10.1186/s40537-018-0134-7
  - 13 Xuchao Zhang, Liang Zhao, **Zhiqian Chen**, Chang-Tien Lu. "Distributed Self-Paced Learning in Alternating Direction Method of Multipliers". *Proceedings of the Twenty-Seventh International Joint Conference on Artificial Intelligence (IJCAI)*, pp. 3148-3154, Stockholm, Sweden, July 13-19, 2018. <https://www.ijcai.org/proceedings/2018/437>, DOI: 10.24963/ijcai.2018/437 (Acceptance rate: 20.46%)
  - 14 Bingsheng Wang\*, **Zhiqian Chen**\*, Arnold P. Boedihardjo, Chang-Tien Lu. "Virtual Metering: An Efficient Water Disaggregation Algorithm via Non-Intrusive Load Monitoring". *ACM Transactions on Intelligent Systems and Technology (TIST)*, Vol. 9, Issue 4, Article No. 39, February 2018. DOI: 10.1145/3141770
  - 15 **Zhiqian Chen**, Chih-Wei Wu, Yen-Cheng Lu, Alexander Lerch, Chang-Tien Lu. "Learning to Fuse Music Genres with Generative Adversarial Dual Learning". *Proceedings of the IEEE International Conference on Data Mining (ICDM)*, pp. 817-822, New Orleans, Louisiana, Nov. 18-21, 2017. DOI: 10.1109/ICDM.2017.98 (Acceptance rate: 19.9%)
  - 16 Xuchao Zhang, Liang Zhao, **Zhiqian Chen**, Arnold P. Boedihardjo, Chang-Tien Lu. "Trendi: Tracking Stories in News and Microblogs via Emerging, Evolving and Fading Topics". *Proceedings of the IEEE International Conference on Big Data (Big Data)*, pp. 1590-1599, Boston, MA, Dec. 11-14, 2017. DOI: 10.1109/BigData.2017.8258093
  - 17 Xuchao Zhang, **Zhiqian Chen**, Liang Zhao, Arnold P. Boedihardjo, Chang-Tien Lu. "TRACES: Generating Twitter Stories via Shared Subspace and Temporal Smoothness". *Proceedings of the IEEE International Conference on Big Data (Big Data)*, pp. 1688-1693, Boston, MA, Dec. 11-14, 2017. DOI: 10.1109/BigData.2017.8258107
  - 18 **Zhiqian Chen**, Xuchao Zhang, Arnold P. Boedihardjo, Jing Dai, Chang-Tien Lu. "Multimodal Storytelling via Generative Adversarial Imitation Learning". *Proceeding of the 26th International Joint Conference on Artificial Intelligence (IJCAI)*, Melbourne, Australia, August 19-25, 2017. DOI: 10.24963/ijcai.2017/554 (Acceptance rate: 26%)
  - 19 Xuchao Zhang, **Zhiqian Chen**, Weisheng Zhong, Arnold P. Boedihardjo, Chang-Tien Lu. "Storytelling in heterogeneous Twitter entity network based on hierarchical cluster routing". *Proceedings of the IEEE International Conference on Big Data (Big Data)*, pp. 1522-1531, Washington, DC, Dec. 5-8, 2016. DOI: 10.1109/BigData.2016.7840760
  - 20 Manu Shukla, **Zhiqian Chen**, Chang-Tien Lu. "DIFPL: Distributed drone flight path builder system". *Proceedings of the 1st International Conference on Geographical Information Systems Theory, Applications and Management (GISTAM)*, Barcelona, Spain, April 28-30, 2015. DOI: 10.5220/0005378700170026 (**Best Student Paper Award**)
  - 21 **Zhiqian Chen**, Wenya Feng. "Detecting Impolite Crawler by Using Time Series Analysis". *Proceedings of 25th IEEE International Conference on Tools with Artificial Intelligence (ICTAI)*, pp. 123-126, Herndon, VA, USA, November 4-6, 2013. DOI: 10.1109/ICTAI.2013.28

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## AWARDS & PATENT

Outstanding Contribution Award, summer 2016, Toyota Research  
 Best Paper Award at ACM SIGSPATIAL 2020  
 Best Student Paper Award at GISTAM 2015  
 IEEE International Conference on Data Mining travel award 2017, 2018  
 U.S. Patent: "System and method to quantify structural properties and predict bulk properties of inorganic materials". (publication # US20180336288A1)

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## REVIEW SERVICE

IEEE Transactions on Knowledge and Data Engineering (**TKDE**)  
 ACM SIG on Knowledge Discovery and Data Mining (**KDD**) 2020  
 Neural Information Processing Systems (**NeurIPS**) 2019, 2020  
 ACM Conference on Research and Development in Information Retrieval (**SIGIR**) 2020  
 ACM Conference on Information and Knowledge Management (**CIKM**) 2019  
 AAAI conference on Artificial Intelligence (**AAAI**) 2020, 2021