

XING (SHANE) ZHAO

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Electrical Engineering and Computer Science (LAS3057)
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Research Interests

Machine learning, deep learning, reinforcement learning, computer vision and their applications on health care.

Education

- Sept. 2017 to Aug. 2020 **M.Sc. Computer Science**, York University, Toronto
Lassonde School of Engineering
Department of Electrical Engineering and Computer Science
Thesis:
Elastic Synchronization for Efficient and Effective Distributed Deep Learning
- Sept. 2011 to Apr. 2017 **B.Sc., Spec. Hons. Computer Science**, York University, Toronto
Lassonde School of Engineering
Department of Electrical Engineering and Computer Science
- Sept. 2003 to Dec. 2006 **Computer Systems Technology with Co-op Education** – Advanced Diploma
Seneca College, Toronto

Research Experience

- Sept. 2020 to Present **Research Associate**, York University, Toronto
- Working on Machine Learning research
 - Focusing on optimization for distributed Deep Learning
- Apr. 2017 to Aug. 2020 **Research Assistant**, York University, Toronto
- Developed efficient distributed training for Deep Learning
 - Worked on Elastic Deep Learning project with IBM Canada
 - Developed Elastic Bulk Synchronous Parallel Model for Distributed Deep Learning
 - Developed Dynamic Stale Synchronous Parallel Distributed Training for Deep Learning
- May 2015 to Apr. 2017 **Data Mining Research Assistant**, York University, Toronto
- Worked on Data Mining and applications of high utility pattern mining
 - Co-defined part of the utility-based news recommendation framework, using high utility patterns over user click stream
 - Co-designed and implemented the high utility pattern mining algorithm and the utility-based association rules algorithm to find the implication relation rules
 - Conducted extensive experiments on a real news dataset to evaluate the performance of the proposed recommendation system as well as the quality of the recommended items
 - Studied raw dataset and prepared input for data mining algorithms

- Sept. 2015 to Apr. 2016 **Bioinformatics Research Assistant**, Zayed Lab, York University, Toronto
- Developed custom Python scripts to handle concurrent processing and transform the large next-generation sequencing data sets

Teaching Experience

- Sept. 2016 to Apr. 2020 **Teaching Assistant**, York University, Toronto
- Course EECS 1022, Programming for Mobile Computing
 - Course EECS 1021, Object Oriented Programming from Sensors to Actuators
 - Course MATH 1019, Discrete Mathematics for Computer Science
 - Course EECS 2031, Software Tools
 - Course EECS 1012, Net-centric Introduction to Computing

Professional Experience

- Apr. 2007 to Sept. 2012 **Network Analyst**, CompuCom Canada, Toronto
- Troubleshoot network issues, diagnosed hardware problems and investigated the root cause
 - Configured and troubleshoot on Cisco switches and routers
 - Trained new recruits on daily operations at network operation center
 - Responded to tickets relating to outages, threshold and environmental alerts from a multitude of different devices on the network
 - Supported change management operations on HPOV and maintained network node management services

Honors and Awards

- Travel Award, IEEE ICDM 2019, Oral
- Lassonde Undergraduate Research Award 2015, Lassonde School of Engineering, York University
- Top 15% of all students in Lassonde School of Engineering Faculty at York University in 2016
- Nominated for membership to Golden Key International Honour Society in 2016

Affiliations

Member, Data Mining Lab, EECS Department, York University

Member, BRAIN Alliance (Big Data Research, Analytics, Information Networks)

Student Member, Institute of Electrical and Electronics Engineers (IEEE)

List of Publications

Zhao, X., Papagelis, M., An, A., Chen, B. X., Liu, J., & Hu, Y. (2019). Elastic Bulk Synchronous Parallel Model for Distributed Deep Learning. In Proceedings of the 19th IEEE International Conference on Data Mining, pp. 1504-1509 (ICDM 2019).

Zhao, X., An, A., Liu, J., & Chen, B. X. (2019). Dynamic Stale Synchronous Parallel Distributed Training for Deep Learning. In Proceedings of the 39th IEEE International Conference on Distributed Computing Systems, pp. 1508-1517 (ICDCS 2019).

Zihayat, M., Ayanso, A., Zhao, X., Davoudi, H., & An, A. (2019). A utility-based news recommendation system. Decision Support Systems, 117, 14-27.

Chen, B. X., Sahdev, R. Wu, D., Zhao, X., Papagelis, M., & Tsotsos, J. K. (2018). Scene classification in indoor environments for robots using context based word embeddings. In Proceedings of the IEEE International Conference on Robotics and Automation - Multimodal Robot Perception Workshop (ICRA 2018 Workshops).

Community Contributions

Review papers for ICDM2018, HIPC2018, ICDM2019

Review papers for KDD2020, ICDM2020

Review paper for Computational Intelligence 2020