

Bo Zong

<https://bzong.github.io>

Research Interest

My current research focuses on advancing machine intelligence by learning and mining from complex data, such as graphs, sequences, time series, and natural languages.

Education

University of California, Santa Barbara, Santa Barbara, CA 09/2010 ~ 09/2015
Ph.D., Computer Science

Nanjing University, Nanjing, China 09/2007 ~ 06/2010
Master, Computer Science

Nanjing University, Nanjing, China 09/2003 ~ 06/2007
Bachelor, Computer Science

Work Experience

NEC Labs America, Princeton, NJ 06/2020 ~ present
Senior Research Staff member, Department of Data Science and System Security

NEC Labs America, Princeton, NJ 10/2015 ~ 06/2020
Research Staff member, Department of Data Science and System Security

University of California, Santa Barbara, Santa Barbara, CA 09/2010 ~ 09/2015
Research Assistant, Computer Science

NEC Labs America, Princeton, NJ Summer 2014
Research Intern, Autonomous Management

Microsoft Research Cambridge, Cambridge, UK Summer 2013
Research Intern, System and Network Group

IBM TJ Watson Research Lab, Yorktown Heights, NY Summer 2012
Research Intern, Wireless Networking Group

Publications

(Publications marked with ‘*’ order authors alphabetically)

- [1] Cheng Zheng, **Bo Zong**, Wei Cheng, Dongjin Song, Jingchao Ni, Wenchao Yu, Haifeng Chen, and Wei Wang. *Robust Graph Representation Learning via Neural Sparsification*, in ICML 2020.
- [2] Lichen Wang, **Bo Zong**, Qianqian Ma, Wei Cheng, Jingchao Ni, Wenchao Yu, Yanchi Liu, Dongjin Song, Haifeng Chen, and Yun Fu. *Inductive and Unsupervised Representation Learning on Graph Structured Objects*, in ICLR 2020.
- [3] Cheng Zheng, **Bo Zong**, Wei Cheng, Dongjin Song, Jingchao Ni, Wenchao Yu, Haifeng Chen, and Wei Wang. *Node Classification in Temporal Graphs through Stochastic Sparsification and Temporal Structural Convolution*, in ECML-PKDD 2020.

- [4] Lu Wang, Wenchao Yu, Xiaofeng He, Wei Cheng, Martin Renqiang Ren, Wei Wang, **Bo Zong**, Haifeng Chen, Hongyuan Zha. *Adversarial Cooperative Imitation Learning for Dynamic Treatment Regimes*, in the Web Conference 2020 (WWW 2020).
- [5] Dongkuan Xu, Wei Cheng, **Bo Zong**, Dongjing Song, Jingchao Ni, Wenchao Yu, Yanchi Liu, Haifeng Chen, and Xiang Zhang. *Tensorized LSTM with Adaptive Shared Memory for Learning Trends in Multivariate Time Series*, in AAAI 2020.
- [6] Xin Dong, Jingchao Ni, Wei Cheng, Zhengzhang Chen, **Bo Zong**, Dongjin Song, Yanchi Liu, Haifeng Chen, and Gerard de Melo. *Asymmetrical Hierarchical Networks with Attentive Interactions for Interpretable Review-Based Recommendation*, in AAAI 2020.
- [7] Dixian Zhu, Dongjin Song, Yuncong Chen, Cristian Lumezanu, Wei Cheng, **Bo Zong**, Jingchao Ni, Takehiko Mizoguchi, Tianbao Yang, and Haifeng Chen. *Deep Unsupervised Binary Coding Networks for Multivariate Time Series Retrieval*, in AAAI 2020.
- [8] Xuchao Zhang, Wei Cheng, **Bo Zong**, Yuncong Chen, Jianwu Xu, Ding Li, and Haifeng Chen. *Temporal Context-Aware Representation Learning for Question Routing*, in WSDM 2020.
- [9] Denghui Zhang, Yanchi Liu, Wei Cheng, **Bo Zong**, Jingchao Ni, Zhengzhang Chen, Haifeng Chen, and Hui Xiong. *T2-Net: A Semi-supervised Deep Model for Turbulence Forecasting*, in ICDM 2020.
- [10] Wenchao Yu, Wei Cheng, Charu Aggarwal, **Bo Zong**, Haifeng Chen, and Wei Wang. *Self-Attentive Attributed Network Embedding Through Adversarial Learning*, in ICDM 2019.
- [11] Dongkuan Xu, Wei Cheng, Dongsheng Luo, Yameng Gu, Xiao Liu, Jingchao Ni, **Bo Zong**, Haifeng Chen, and Xiang Zhang. *Adaptive Neural Network for Node Classification in Dynamic Networks*, in ICDM 2019.
- [12] Dongkuan Xu, Wei Cheng, **Bo Zong**, Jingchao Ni, Dongjin Song, Wenchao Yu, Yuncong Chen, Haifeng Chen, and Xiang Zhang. *Deep Co-Clustering*, in SDM 2019.
- [13] Chuxu Zhang, Dongjin Song, Yuncong Chen, Xinyang Feng, Cristian Lumezanu, Wei Cheng, Jingchao Ni, **Bo Zong**, Haifeng Chen, and Nitesh V. Chawla. *A Deep Neural Network for Unsupervised Anomaly Detection and Diagnosis in Multivariate Time Series Data*, in AAAI 2019.
- [14] Qi Song, **Bo Zong**, Yinghui Wu, Lu-An Tang, Hui Zhang, Guofei Jiang, and Haifeng Chen. *TGNet: Learning to Rank Nodes in Temporal Graphs*, in CIKM 2018.
- [15] **Bo Zong**, Qi Song, Martin Renqiang Min, Wei Cheng, Cristian Lumezanu, Daeki Cho, and Haifeng Chen. *Deep Autoencoding Gaussian Mixture Model for Unsupervised Anomaly Detection*, in ICLR 2018.
- [16] Mingda Li, Cristian Lumezanu, **Bo Zong**, and Haifeng Chen. *Deep Learning IP Network Representations*, in SIGCOMM 2018 Workshop on Big Data Analytics and Machine Learning for Data Communication Networks (**Best paper award**).
- [17] Wenchao Yu, Cheng Zheng, Wei Cheng, Charu Aggarwal, Dongjin Song, **Bo Zong**, Haifeng Chen, and Wei Wang. *Learning Deep Network Representations with Adversarially Regularized Autoencoders*, in KDD 2018.
- [18] Xiaohan Zhao, **Bo Zong**, Ziyu Guan, Kai Zhang, and Wei Zhao. *Substructure Assembling Network for Graph Classification*, in AAAI 2018.
- [19] Biplob Debnath, Mohiuddin Solaimani, Muhammad Ali Gulzar, Nipun Arora, Cristian Lumezanu, Jianwu Xu, **Bo Zong**, Hui Zhang, Guofei Jiang, and Latifur Khan. *LogLens: A Real-time Log Analysis System*, in ICDCS 2018.
- [20] **Bo Zong**, Xusheng Xiao, Zhichun Li, Zhenyu Wu, Zhiyun Qian, Xifeng Yan, Ambuj K. Singh, and Guofei Jiang. *Behavior Query Discovery in System-Generated Temporal Graphs*, in VLDB 2016.
- [21] Vishwakarma Singh, **Bo Zong**, and Ambuj K. Singh. *Nearest Keyword Set Search in Multi-dimensional Datasets*, in TKDE 2016.
- [22] **Bo Zong**, Christos Gkantsidis, and Milan Vojnovic. *Herding “Small” Streaming Queries*, in DEBS 2015.
- [23] **Bo Zong**, Yinghui Wu, Jie Song, Ambuj K. Singh, Hasan Cam, Jiawei Han, and Xifeng Yan. *Towards Scalable Critical Alert Mining*, in KDD 2014.
- [24] **Bo Zong**, Ramya Raghavendra, Mudhakar Srivatsa, Xifeng Yan, Ambuj K. Singh, and Kang-Won Lee. *Cloud Service Placement via Subgraph Matching*, in ICDE 2014.

- [25] **Bo Zong**, Yinghui Wu, Ambuj K. Singh, and Xifeng Yan, *Inferring the Underlying Structure of Information Cascades*, in ICDM 2012.
- [26] Shengqi Yang, Xifeng Yan, **Bo Zong**, and Arijit Khan, *Towards Effective Partition Management for Large Graphs*, in SIGMOD 2012.
- [27] * Misael Mongiovì, Konstantinos Psounis, Ambuj K. Singh, Xifeng Yan, and **Bo Zong**, *Efficient Multicasting for Delay Tolerant Networks using Graph Indexing*, in INFOCOM 2012.
- [28] **Bo Zong**, Feng Xu, Jun Jiao, and Jian Lü, *A Broker-assisting Trust and Reputation System Based on Artificial Neural Network*, in SMC 2009.
- [29] **Bo Zong**, Feng Xu, Jing Pan, and Jian Lü, *Comparing and Evaluating Collection Strategies in Trust-Based Reputation Systems in Distributed Environments*, Symposia and Workshops in UIC-ATC 2009.

Patents

- [1] **Bo Zong**, Hui Zhang, and Jianwu Xu. *Automatic and Scalable Log Pattern Learning In Security Log Analysis*. US Patent, 2020.
- [2] **Bo Zong**, Lu-An Tang, Qi Song, Biplob Debnath, Hui Zhang, and Guofei Jiang. *Discovering critical alerts through learning over heterogeneous temporal graphs*. US Patent, 2019.
- [3] Lu-An Tang, Hengtong Zhang, Zhengzhang Chen, **Bo Zong**, Zhichun Li, Guofei Jiang, and Kenji Yoshihira. *Constructing graph models of event correlation in enterprise security systems*. US Patent, 2019.
- [4] Zhichun Li, Lu-An Tang, **Bo Zong**, Zhengzhang Chen, Guofei Jiang, Kenji Yoshihira, and Hengtong Zhang. *Graph based attack chain discovery in enterprise security system*. US Patent, 2019.
- [5] Zhichun Li, Xusheng Xiao, Zhenyu Wu, **Bo Zong**, and Guofei Jiang. *Behavior Query Discovery in Temporal Graphs*. Japan Patent, 2019.
- [6] Milan Vojnovic, Christos Gkantsidis, and **Bo Zong**. *Streaming Query Resource Control*. US Patent, 2015.

Honors and Awards (Since 2015)

<i>Business Contribution Award</i> , in NEC Labs, America	2019
<i>First Grade Contribution Award</i> , in NEC Central Research	2018
<i>Business Contribution Award</i> , in NEC Labs, America	2017
<i>Spot Recognition Award</i> , in NEC Labs, America	2016