

BANG AN

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<https://bangann.github.io/>

EDUCATION

University of Maryland, College Park

2020 - Present

Ph.D. student in Computer Science

Advisor: Prof. Furong Huang

Tsinghua University, China

2013 - 2016

M.S. in Automation, School of Information Science and Technology

Northeastern University, China

2009 - 2013

B.S. in Automation, School of Information Science and Engineering

RESEARCH INTEREST

My research focuses on **Reliable Machine Learning**. I am particularly interested in understanding and improving the algorithmic fairness, generalization, robustness, and interpretability of deep-learning models through the tools of representation learning, self-training, causality, transfer learning, etc.

PUBLICATIONS

* denotes equal contribution

1. Sicheng Zhu, **Bang An**, Furong Huang, Sanghyun Hong
Learning Unforeseen Robustness from Out-of-distribution Data Using Equivariant Domain Translator
International Conference on Machine Learning (ICML), 2023.
2. **Bang An**, Zora Che, Mucong Ding, Furong Huang
Transferring Fairness under Distribution Shifts via Fair Consistency Regularization
In the Thirty-fifth Annual Conference on Neural Information Processing Systems (NeurIPS) 2022.
3. Mucong Ding, Tahseen Rabbani, **Bang An**, Evan Z Wang, Furong Huang
Sketch-GNN: Scalable Graph Neural Networks with Sublinear Training Complexity
In the Thirty-fifth Annual Conference on Neural Information Processing Systems (NeurIPS) 2022.
4. Sicheng Zhu*, **Bang An***, Furong Huang
Understanding the Generalization Benefit of Model Invariance from a Data Perspective
In the Thirty-fifth Annual Conference on Neural Information Processing Systems (NeurIPS) 2021.
5. Xueting Han, Zhenhuan Huang, **Bang An**, Jing Bai
Adaptive Transfer Learning on Graph Neural Networks
In ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) 2021.
6. **Bang An**, Jie Lyu, Zhenyi Wang, Chunyuan Li, C. Hu, F. Tan, Ruiyi Zhang, Y. Hu, Changyou Chen
Repulsive Attention: Rethinking Multi-head Attention as Bayesian Inference
In Empirical Methods in Natural Language Processing (EMNLP), 2020.
7. Honglei Guo, **Bang An**, Zhili Guo, Zhong Su
Deep Semantic Compliance Advisor for Unstructured Document Compliance Checking
In International Joint Conference on Artificial Intelligence (IJCAI), 2020.
8. Zhenyi Wang, Xiaoyang Wang, **Bang An**, Dong Yu, Changyou Chen
Towards Faithful Neural Table-to-Text Generation with Content-Matching Constraints
In Association for Computational Linguistics (ACL), 2020.

9. Xiang Zou, Peng Cheng, **Bang An**, Jingyan Song
Sectorization and Configuration Transition in Airspace Design
In Mathematical Problems in Engineering, 2016.
10. **Bang An**, Peng Cheng, Xiang Zou
A Smart Sectorization Approach Based on Spectral Clustering and NSGA-II
In IEEE International Smart Cities Conference, 2015.
11. **Bang An**, Peng Cheng
An Algorithm for a Class of Uncapacitated Facility Location Problem Based on Branch-and-Cut
In Operations Research Transactions, 2015.

EMPLOYMENT

Google Research <i>Research Intern, Brain Team</i> Advisor: Zhe Zhao	Jun 2022 - Aug 2022 <i>Mountain View, CA</i>
Microsoft Research Asia <i>Research Intern, System Intelligence Team</i> Advisor: Xueting Han	Sep 2020 - Dec 2020 <i>Beijing, China</i>
State University of New York at Buffalo <i>Visiting Researcher, Machine Learning Lab</i> Advisor: Changyou Chen	Jul 2019 - May 2020 <i>Buffalo, NY</i>
IBM Research - China <i>Research Staff Member, NLP Team</i> Manager: Zhong Su	Aug 2018 - Jun 2019 <i>Beijing, China</i>
China Transport Information Center Co., Ltd <i>Machine Learning Engineer</i>	Jul 2016 - Jul 2018 <i>Beijing, China</i>
Samsung Electronics China Research Institute <i>Research Intern</i>	Jun 2015 - Sep 2015 <i>Beijing, China</i>
Institute of Software Chinese Academy of Sciences <i>Research Intern</i>	Jun 2014 - Sep 2014 <i>Beijing, China</i>

HONORS & AWARDS

NeurIPS 2022 Travel Award, New Orleans, 2022.
 Comprehensive Excellent Scholarship of Tsinghua University, China, 2014 and 2015
 College Graduate Excellence Award of Liaoning Province (top 1%), China, 2013
 First Prize of National Mathematics Competition in Liaoning Province, China, 2013
 Third Prize of National Computer Game Tournament (Phantom Go Track), China, 2012
 National Undergraduate Scholarship (top 1%), China, 2010, 2011, 2012
 First Prize Scholarship of Northeastern University (top 2%), China, 2010, 2011, 2012

SERVICES

Reviewer: ICML 2022, NeurIPS 2022, ICML2023.

Program Committee:

3rd Workshop on Continual and Multimodal Learning for Internet of Things, IJCAI, 2021.

1st Workshop on Foundation Models for Vision and Language, ICDM, 2022.

Trustworthy and Socially Responsible Machine Learning (TSRML), NeurIPS Workshop, 2022.