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Yizhou Zhang

Education

University of Southern California — Los Angeles, CA, United States
Ph.D. Candidate in Computer Science, GPA: 4.0/4.0, Advisor: Yan Liu — 2019–Current

Peking University — Beijing, China
B.S. in Computer Science and Technology, GPA: 3.7/4.0, Advisor: Guojie Song — 2015–2019

- Graduate with Summa Cum Laude
- Top 10 Undergraduate Thesis in the School of EECS
- Research at Montreal Institute for Learning Algorithms (MILA) in Summer 2018, advised by Prof. Jian Tang

Research Interests

- **Combat Fake News and Misinformation Campaigns:** Fake news and misleading information that are spread by misinformation campaigns to manipulate public opinions are growing fast to be a serious threaten to the credibility of online information. I am interested in two important topics that help address this challenge:
  - Develop machine learning algorithms to detect fake news and misinformation campaigns from the social media post contents and diffusion cascades on social media.
  - Understand how misinformation influences public opinions and which factors contribute more to the influence strength.
- **Machine Learning on Graph:** Graph-structured data widely exists in different areas, ranging from social networks to scene graphs in computer vision. I am interested in developing machine learning algorithms that are applicable on general graph-structured data.

Research Experience before Ph.D.

Peking University — Beijing, China
Advisor: Guojie Song — Arp 2017 - Jun 2018

- Medical Concept Normalization via Text and Comobidity Information
  - Proposed a new unsupervised framework to solve the problems related to the lack of annotated data
  - Designed multi-view attention based denoising auto-encoder (MADAE) to exploit text information containing noise in Electronic Media Records
  - Design denoisng network embedding (DNE) to exploit comorbidity information containing noise

Montreal Institute for Learning Algorithms (MILA) — Montreal, Quebec, Canada
Advisor: Jian Tang — Summer 2018

- Documents Alignment via Adversarial Learning
  - Designed a model to align multi-lingual documents describing the same entity with only a few or no paired samples provided.
  - Represent documents as vectors and the use Adversarial Learning to align the spaces of different languages.

Peking University — Beijing, China
Advisor: Guojie Song — Sept 2018 - Aug 2019

- Transfer Learning on Graph-Structured Data
  - Proposed an unsupervised network embedding framework to learn transferable representations for graph-structured data
  - Proposed an active learning framework to improve the label efficiency for transfer learning on graphs.

Conference Publications

1. [**NeurIPS 2022**] **Yizhou Zhang***, Defu Cao* and Yan Liu "Counterfactual Neural Temporal Point Process for Estimating Causal Influence of Misinformation on Social Media", *To Appear in Advances in Neural Information Processing Systems, 2022.* (* Equal Contribution)

2. [**ICPR 2022**] **Yizhou Zhang**, Zhaoheng Zheng, Ram Nevatia and Yan Liu "Improving Weakly Supervised Scene Graph Parsing through Object Grounding", *To Appear in Proceedings of the 27th International Conference on Pattern Recognition, 2022.*

3. [**ICWSM 2022**] Karishma Sharma, **Yizhou Zhang** and Yan Liu "COVID-19 Vaccine Misinformation Campaigns and Social Media Narratives", *To Appear in Proceedings of the 15th International AAAI Conference on Web and Social Media, 2022.*

4. [**NeurIPS 2021**] **Yizhou Zhang***, Karishma Sharma* and Yan Liu "VigDet: Knowledge Informed Neural Temporal Point Process for Coordination Detection on Social Media", *Advances in Neural Information Processing Systems, 2021.* (* Equal Contribution)

5. [**KDD 2021**] Karishma Sharma*, **Yizhou Zhang***, Emilio Ferrara and Yan Liu "Identifying Coordinated Accounts on Social Media through Hidden Influence and Group Behaviours", *Proceedings of the 27th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining, 2021.* (* Equal Contribution)

6. [**TheWebConf 2020**] Lichen Jin, **Yizhou Zhang**, Guojie Song and Yilun Jin "Active Domain Transfer on Network Embedding", *Proceedings of The Web Conference 2020.*

7. [**IJCAI 2019**] **Yizhou Zhang**, Guojie Song, Lun Du, Shuwen Yang and Yilun Jin "DANE: Domain Adaptive Network Embedding", *Proceedings of the 28th International Joint Conference on Artificial Intelligence, 2019.*

8. [**ICDM 2018**] **Yizhou Zhang**, Xiaojun Ma and Guojie Song "Chinese Medical Concept Normalization by Using Text and Comorbidity Network Embedding", *IEEE International Conference on Data Mining, 2018.*

Jounal Publications

1. [**JHIR 2021**] Nitin Kamra, **Yizhou Zhang**, Sirisha Rambhatla, Chuizheng Meng, and Yan Liu "PolSIRD: Modeling Epidemic Spread Under Intervention Policies", *Journal of Healthcare Informatics Research, 2021.*

2. [**TBD 2020**] Guojie Song, **Yizhou Zhang**, Lingjun Xu and Haibing Lu "Domain Adaptive Network Embedding", *IEEE Transactions on Big Data, 2020.*

Skills

- **Machine Learning Frameworks:** PyTorch, TensorFlow, Scikit-Learn
- **Programming Languages:** Python (Proficient), C&C++ (Proficient), Java (with coding experience) and R (with coding experience)
- **Programming Abilities:** Sufficient experience and knowledge of programming on Linux

Languages

- **Chinese (Mandarin):** Mother Language
- **English:** Fluent

Selected Scholarships and Awards

- Annenberg Fellowship, USC 2019–Current
- Top 10 Undergraduate Thesis in the School of EECS, Peking University 2019