Yingtong Dou (Ph.D.)

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Google Scholar
Github

Employment		
Staff Research Scientist **Visa Inc.**		Dec. 2022 - Now
Supervisor: Dr. Mahashweta Das		Palo Alto, CA
Research Assistant **University of Illinois Chicago**		Jun. 2019 - May. 2022
Supervisor: Dr. Philip S. Yu		Chicago, IL
Research Intern **Snap Inc.**		Jun. 2021 - Oct. 2021
Supervisor: Dr. Neil Shah		Remote
Research Intern **Noah's Ark Lab**		May. 2018 - Aug. 2018
Supervisor: Dr. Zhenhua Dong		Shenzhen, China

Education

Ph.D. University of Illinois Chicago, Computer Science — 2017 - 2022
Dissertation: *Robust Graph Learning for Misbehavior Detection*

B.E. Beijing Univ. of Posts and Telecoms., IoT Engineering — 2013 - 2017
Graduated with *Beijing Excellent Graduate Award*

B.E. Queen Mary University of London, IoT Engineering — 2013 - 2017
Graduated with *Second Class Honours (Upper Division)*

Preprints

[P2] K. Liu*, **Y. Dou***, Y. Zhao*, et al. **"PyGOD: A Python Library for Graph Outlier Detection."** *arXiv preprint*, 2022.
[doi:arXiv:2204.12095]

[P1] **Y. Dou**. **"A Review of Recent Advance in Online Spam Detection."** *Technical Reports*, 2019.
[doi:10.13140/RG.2.2.34813.00485]

Selected Publications

[C11] K. Liu*, **Y. Dou***, Y. Zhao*, et al. **"BOND: Benchmarking Unsupervised Outlier Node Detection on Static Attributed Graphs."** *NeurIPS*, 2022.
[doi:arXiv:2206.10071]

[C7] **Y. Dou**, K. Shu, C. Xia, P. S. Yu and L. Sun. **"User Preference-aware Fake News Detection."** *ACM SIGIR*, 2021.
[doi:10.1145/3404835.3462990]

[C4] **Y. Dou**, Z. Liu, L. Sun, Y. Den, H. Peng, and P. S. Yu. **"Enhancing Graph Neural Network-based Fraud Detectors against Camouflaged Fraudsters."** *ACM CIKM*, 2020.
[doi:10.1145/3340531.3411903]

[C3] **Y. Dou**, G. Ma, P. S. Yu, and S. Xie. **"Robust Spammer Detection by Nash Reinforcement Learning."** *ACM SIGKDD*, 2020.
[doi:10.1145/3394486.3403135]

[C1] **Y. Dou**, W. Li, Z. Liu, Z. Dong, J. Luo, and P. S. Yu. **"Uncovering Download Fraud Activities in Mobile App Markets."** *IEEE/ACM ASONAM*, 2019.
[doi:10.1145/3341161.3345306]

Other Publications

[C12] H. Wang, **Y. Dou**, C. Chen, L. Sun, P. S. Yu, and K. Shu. **"Attacking Fake News Detectors via Manipulating News Social Engagement."** *ACM*

TheWebConf, 2023.
[doi:10.1145/3543507.3583868]

[C10] R. Zhang, H. Peng, **Y. Dou**, J. Wu, Q. Sun, J. Zhang, and P. S. Yu. **"Automating DBSCAN via Reinforcement Learning."** *ACM CIKM*, 2022.
[doi:10.1145/3511808.3557245]

[J5] L. Sun, **Y. Dou**, C. Yang, J. Wang, K. Zhang, P. S. Yu, L. He and B. Li. **"Adversarial Attack and Defense on Graph Data: A Survey."** *IEEE TKDE*, 2022.
[doi:10.1109/TKDE.2022.3201243]

[C9] C. Wang, **Y. Dou**, M. Chen, J. Chen, Z. Liu, and P. S. Yu. **"Deep Fraud Detection on Non-attributed Graph."** *IEEE BigData*, 2021.
[doi:10.1109/BigData52589.2021.9672028]

[C8] J. Du, **Y. Dou**, C. Xia, L. Cui, J. Ma, and P. S. Yu. **"Cross-lingual COVID-19 Fake News Detection."** *IEEE ICDM Workshop*, 2021.
[doi:10.1109/ICDMW53433.2021.00110]

[J4] H. Peng, R. Zhang, **Y. Dou**, R. Yang, J. Zhang, P. S. Yu. **"Reinforced Neighborhood Selection Guided Multi-Relational Graph Neural Networks."** *ACM TOIS*, 2021.
[doi:10.1145/3490181]

[C6] L. Yang, Z. Liu, **Y. Dou**, J. Ma and P. S. Yu. **"ConsisRec: Enhancing GNN for Social Recommendation via Consistent Neighbor Aggregation."** *ACM SIGIR*, 2021.
[doi:10.1145/3404835.3463028]

[J3] J. Li, H. Peng, Y. Cao, **Y. Dou**, H. Zhang, P. S. Yu, L. He. **"Higher-Order Attribute-Enhancing Heterogeneous Graph Neural Networks."** *IEEE TKDE*, 2021.
[doi:10.1109/TKDE.2021.3074654]

[C5] Y. Cao, H. Peng, J. Wu, **Y. Dou**, J. Li, and P. S. Yu.**"Knowledge-Preserving Incremental Social Event Detection via Heterogeneous GNNs."** *ACM TheWebConf*, 2021.
[doi:10.1145/3442381.3449834]

[C2] Z. Liu, **Y. Dou**, P. S. Yu, Y. Den, and H. Peng.**"Alleviating the Inconsistency Problem of Applying Graph Neural Network to Fraud Detection."** *ACM SIGIR*, 2020.
[doi:10.1145/3397271.3401253]

[J2] X. Deng, Y. Yu, D. Guo and **Y. Dou**.**"Efficient CPS Model Based Online Opinion Governance Modeling and Evaluation for Emergency Accidents."** *Springer GeoInformatica*, 2018.
[doi:10.1007/s10707-018-0319-4]

[J1] X. Deng, **Y. Dou**, T. Lv, N. QVH. **"A Novel Centrality Cascading Based Edge Parameter Evaluation Method for Robust Influence Maximization."** *IEEE Access*, 2017.
[doi:10.1109/access.2017.2764750]

Professional Services

- **Conference Organizer:** TheWebConf'22 Whova Chair, WSDM'22 Whova Chair

- **Session Chair:** CIKM'22, KDD'22
- **Journal Reviewer:** IEEE TIFS, ACM TWEB, ACM TKDD, IEEE TKDE, ACM TIST, ACM TOIS, IEEE TNNLS, Springer Multimedia Tools and Applications, Springer Information Processing and Management, Springer Social Network Analysis and Mining, Frontiers in Computer Science, Elsevier Knowledge-Based Systems, Elsevier Online Social Networks and Media, Elsevier Information & Management, Frontiers in Psychology, Elsevier Pattern Recognition
- **Program Committee Member:** SIGIR'23, KDD'23'22, IJCAI'23'22'21, CySoc@ TheWebConf'23, TheWebConf'23, SDM'23'22, AAAI'23'21, LoG'22, NeurIPS'22, ASONAM'22'21, CIKM'22, CySoc@ICWSM'22, WSDM'22, CONSTRAINT@ACL'22, IJCAI'22'21, TrueFact@KDD'20
- **External Reviewer:** ECIS'23, ECML-PKDD'22, ACL'22, AAAI'22, KDD'21, TheWebConf'21, WSDM'21, KDD'20, BigData'19, CIKM'19

Talks and Blogs

- **GNN-based Fraud Detection: from Research to Application.**
  Wells Fargo, Online. [*Slides PDF*]   December 2022
- **GNN-based Graph Outlier Detection: A Brief Introduction.**
  Blog Article, TigerGraph. [*Blog Link*]   September 2022
- **GNN-based Anomaly Detection: from Research to Application.**
  One Novartis Data Science Seminar, Online. [*Slides PDF*]   August 2022
- **GNNs for Financial Fraud Detection: Practices and Challenges.**
  KDD'22 MLF Workshop, Washington DC. [*Slides PDF*]   August 2022
- **Mining Twitter for Social Event and Misinformation Detection.**
  CS 579 OSN Analysis, IIT, Chicago. [*Slides PDF*]   March 2022
- **Robust Graph Learning for Misbehavior Detection.**
  Ph.D. Forum, ACM WSDM 2022, Online. [*Slides PDF*]   February 2022
- **GNN-based Fraud Detection: from Research to Application.**
  Datafun Summit, Online. [*Slides PDF*]   October 2021
- **Robust Fraud Detection against Adversarial Fraudsters.**
  Grab Inc. and F5 Research, Online. [*Slides PDF*]   March & May 2021
- **Tackling Fake Downloads in Mobile App Markets.**
  Blog Article, Medium. [*Blog Link*]   July 2019
- **An Introduction to Graph-based Spam Review Detection.**
  Tencent, Shenzhen. [*Slides PDF*]   July 2018

Honors and Awards

- ACM CIKM 2022 Best Paper Honorable Mention   October 2022
- Papers with Code Contributor Award   March 2022
- ACM WSDM 2022 Outstanding Service Award   February 2022
- Student Travel Awards: WSDM'22, ICDM'21, SIGIR'20, SIGKDD'20, CIKM'20