Yingtong Dou (Ph.D. Candidate)

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Google Scholar
Github

Education	**Ph.D.**	University of Illinois Chicago (UIC), Computer Science 2017 - *present*

Education

Ph.D. University of Illinois Chicago (UIC), Computer Science   2017 - *present*
Advisor: Philip S. Yu
Research Area: Graph Mining, Fraud Detection, Secure Machine Learning

B.E. Beijing Univ. of Posts and Telecoms. (BUPT), IoT Engineering 2013 - 2017
Graduated with *Beijing Excellent Graduate Award*
Thesis: *Robust Influence Maximization Algorithm Design for OSNs*

Working Experience

Research Intern   **Snap Inc.**   Summer 2021
Mentor: Dr. Neil Shah
Project: Incremental Learning with Graph Neural Networks

Research Intern   **Noah's Ark Lab**   Summer 2018
Mentor: Dr. Zhenhua Dong
Project: Download Fraud Detection in Mobile App Markets

Preprints

[P2] K. Liu*, **Y. Dou***, Y. Zhao*, et al. **"PyGOD: A Python Library for Graph Outlier Detection."** *arXiv preprint*, 2022. [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. **"Benchmarking Node Outlier Detection on Static Attributed Graphs."** *NeurIPS*, 2022. [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

[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. [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. [arXiv:1812.10528]

[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. [arXiv:2110.01171]

[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. [arXiv:2110.06495]

[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 Trans. on Knowledge and Data Engineering*, 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."** *The Web Conference*, 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]

Skills

- **Language:** Chinese (Proficient), English (Advanced), Spanish (Elementary)
- **Programming:** Python, C, Java, SQL, MATLAB, Shell, PyTorch, TensorFlow

Professional Services

- **Conference Organizer:** KDD'22 Session Chair, WWW'22 Whova Chair, WSDM'22 Whova Chair
- **Review Editor:** Frontiers in Computer Science
- **Journal Reviewer:** 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
- **Program Committee Member:** TheWebConf'23, SDM'23'22, AAAI'23'21, LoG'22, NeurIPS'22, ASONAM'22'21, CIKM'22, CySoc@ICWSM'22, KDD'22, WSDM'22, CONSTRAINT@ACL'22, IJCAI'22'21, TrueFact@KDD'20
- **External Reviewer:** ECML-PKDD'22, ACL'22, AAAI'22, KDD'21, WWW'21, WSDM'21, KDD'20, BigData'19, CIKM'19

Talks and Blogs

- **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

- **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

- 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