

# Xovee Xu

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## Education

|       |                      |  |        |
|-------|----------------------|--|--------|
| Ph.D. | Computer Science     | University of Electronic Science and Technology of China | 2025   |
|       |                      | Advisors: Fan Zhou & Jingkuan Song                       | (exp.) |
| M.S.  | Software Engineering | University of Electronic Science and Technology of China | 2021   |
| B.S.  | Software Engineering | University of Electronic Science and Technology of China | 2018   |

## Academic Employment

|                    |  |        |
|--------------------|--|--------|
| Research Assistant | University of Electronic Science and Technology of China, Chengdu, China | 2018 - |
|--------------------|--|--------|

## Distinction

|                                  |      |
|----------------------------------|------|
| Academic Rising Star of UESTC    | 2022 |
| Excellent Master Thesis of UESTC | 2021 |

## Area of Interest

Social network analysis & web mining  
Multimodal & spatial-temporal data learning  
Human-centered data mining & human-computer interaction

## Academic Service

### Program Committee Member

IEEE ICASSP, 2024  
SIAM International Conference on Data Mining, 2024  
ACM CIKM, Resource Track, 2023  
ACM KDD, Research Track (Reviewer), 2023

### Reviewing (include sub- & external-reviews)

|  |    |
|--|----|
| ACM SIGKDD Conference on Knowledge Discovery and Data Mining | ×5 |
|--|----|

|   |    |
|---|----|
| Expert Systems With Applications  | ×5 |
| ACM International Conference on Information and Knowledge Management (CIKM)                 | ×4 |
| ACM International Conference on Multimedia  | ×4 |
| IEEE Transactions on Neural Networks and Learning Systems (TNNLS)                           | ×4 |
| IEEE Internet of Things Journal   | ×3 |
| IEEE Transactions on Big Data   | ×3 |
| IEEE Transactions on Knowledge and Data Engineering (TKDE)                                  | ×3 |
| AAAI Conference on Artificial Intelligence  | ×2 |
| Annual Conference on Neural Information Processing Systems (NeurIPS)                        | ×2 |
| IEEE International Conference on Data Engineering (ICDE)                                    | ×2 |
| International Journal of Intelligent Systems  | ×2 |
| Knowledge-Based Systems   | ×2 |
| Neurocomputing  | ×2 |
| The Web Conference  | ×2 |
| ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (GIS) | ×1 |
| IEEE Conference on Computer Vision and Pattern Recognition (CVPR)                           | ×1 |
| IEEE International Conference on Big Data   | ×1 |
| IEEE/ACM Transactions on Networking   | ×1 |
| INFORMS Journal on Computing  | ×1 |
| Knowledge and Information Systems   | ×1 |

### Professional Membership

ACM: Association for Computing Machinery  
Member (2020)

CCF: China Computer Federation  
Student Member (2021)

IEEE: Institute of Electrical and Electronics Engineers  
Graduate Student Member (2020)

### Publication

<https://www.xoveexu.com/pub>

\* Corresponding Author , † Equal Contribution

### Refereed Journal Articles

1. Qiang Gao, Jinyu Hong, Xovee Xu, Ping Kuang, Fan Zhou\*, and Goce Trajcevski. 2023. Predicting human mobility via self-supervised disentanglement learning. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 16 pages, Sep 2023, Early-Access.
2. Xovee Xu, Zhiyuan Wang, Qiang Gao, Ting Zhong, Bei Hui\*, Fan Zhou, and Goce Trajcevski. 2023. Spatial-Temporal Contrasting for Fine-Grained Urban Flow Inference. *IEEE Transactions on Big Data*, 2023.

3. Xovee Xu, Ting Zhong, Fan Zhou\*, Rongfan Li, Goce Trajcevski, and Qinggang Meng. 2023. Learning spatiotemporal manifold representation for probabilistic land deformation prediction. *IEEE Transactions on Cybernetics*, 2023.
4. Xovee Xu<sup>†</sup>, Zhiyuan Wang<sup>†</sup>, Fan Zhou\*, Ying Huang, Ting Zhong, and Goce Trajcevski. 2023. Dynamic Transformer ODEs for large-scale reservoir inflow forecasting. *Knowledge-Based Systems*, vol. 276, pp. 110737, Sept 2023.
5. Chunjing Xiao<sup>†</sup>, Xovee Xu<sup>†</sup>, Yue Lei, Kunpeng Zhang, Siyuan Liu, and Fan Zhou\*. 2023. Counterfactual graph learning for anomaly detection on attributed networks. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 14 pages, Mar 2023, Early-Access.
6. Liu Yu<sup>†</sup>, Xovee Xu<sup>†</sup>, Goce Trajcevski, and Fan Zhou\*. 2022. Transformer-enhanced Hawkes process with decoupling training for information cascade prediction. *Knowledge-Based Systems*, vol. 255, pp. 109740, Nov 2022.
7. Xovee Xu, Fan Zhou\*, Kunpeng Zhang, and Siyuan Liu. 2022. CCGL: Contrastive cascade graph learning. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, vol. 35, no. 5, pp. 4539–4554, May 2023.
8. Xovee Xu, Ting Zhong, Ce Li, Goce Trajcevski, and Fan Zhou\*. 2022. Heterogeneous dynamical academic network for learning scientific impact propagation. *Knowledge-Based Systems*, vol. 238, pp. 107839, Feb 2022.
9. Fan Zhou, Pengyu Wang, Xovee Xu\*, Wenxin Tai, and Goce Trajcevski. 2021. Contrastive trajectory learning for tour recommendation. *ACM Transactions on Intelligent Systems and Technology (TIST)*, vol. 13, no. 1, article 4, 25 pages, Nov 2021. Special Issue on Intelligent Trajectory Data Analytics.
10. Xovee Xu, Fan Zhou\*, Kunpeng Zhang, Siyuan Liu, and Goce Trajcevski. 2021. CasFlow: Exploring hierarchical structures and propagation uncertainty for cascade prediction. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, vol. 35, no. 4, pp. 3484–3499, Apr 2023.
11. Fan Zhou, Xovee Xu\*, Goce Trajcevski, Kunpeng Zhang. 2021. A survey of information cascade analysis: Models, predictions, and recent advances. *ACM Computing Surveys*, vol. 54, no. 2, article 27, 36 pages, Mar 2021.

### Refereed Conference Articles

12. Xovee Xu<sup>†</sup>, Jiayang Li<sup>†</sup>, and Fan Zhou\*. 2023. MDCC: A multimodal dynamic dataset for donation-based crowdfunding campaigns. ACM International Conference on Information and Knowledge Management (CIKM), Birmingham, UK, Oct 21–25, 2023.
13. Ce Li, Rongpei Hong, Xovee Xu, Goce Trajcevski, and Fan Zhou\*. 2023. Simplifying temporal heterogeneous network for continuous-time link prediction. ACM International Conference on Information and Knowledge Management (CIKM), Birmingham, UK, Oct 21–25, 2023. **Oral Presentation.**
14. Xovee Xu, Yutao Wei, Pengyu Wang, Xucheng Luo\*, Fan Zhou, and Goce Trajcevski. 2023. Diffusion probabilistic modeling for fine-grained traffic flow inference with relaxed structural constraint. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Rhodes Island, Greece, Jun 4–10, 2023. **Oral Presentation.**
15. Haoyang Yu<sup>†</sup>, Xovee Xu<sup>†</sup>, Ting Zhong\*, and Fan Zhou\*. 2023. Overcoming forgetting in fine-grained urban flow inference via adaptive knowledge replay. AAAI Conference on Artificial Intelligence (AAAI), Washington DC, USA, Feb 7–14, 2023, pp. 5393–5401. **Oral Presentation.**
16. Zhiyuan Wang, Xovee Xu, Goce Trajcevski, Weifeng Zhang, Ting Zhong, and Fan Zhou. 2022. Learning latent seasonal-trend representations for time series forecasting. Annual Conference on Neural Information Processing Systems (NeurIPS), New Orleans, USA, Nov 28 – Dec 9, 2022, pp. 38775–38787. **Oral Presentation.**
17. Yang Cao, Zhenzhen Dang, Feng Wu, Xovee Xu\*, and Fan Zhou. 2022. Probabilistic electricity demand forecasting with Transformer-guided state space model. IEEE International Conference on Automation, Electronics and Electrical Engineering (AUTEEE), Shenyang, China, Nov 18–20, 2022, pp. 964–969.

18. Ting Zhong, Haoyang Yu, Rongfan Li, Xovee Xu\*, Xucheng Luo, and Fan Zhou. 2022. Probabilistic fine-grained urban flow inference with normalizing flows. *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Singapore & Online, May 23–27, 2022, pp. 3663–3667.
19. Zhiyuan Wang<sup>†</sup>, Xovee Xu<sup>†</sup>, Goce Trajcevski, Kunpeng Zhang, Ting Zhong, and Fan Zhou\*. 2022. PrEF: Probabilistic electricity forecasting via copula-augmented state space model. *AAAI Conference on Artificial Intelligence (AAAI)*, Vancouver, Canada, Feb 22 – Mar 1, 2022, pp. 12200–12207.
20. Fan Zhou, Ce Li, Xovee Xu, Leyuan Liu\*, and Goce Trajcevski. 2021. HGENA: A hyperbolic graph embedding approach for social network alignment. *IEEE Global Communications Conference (GLOBECOM), Hybrid Conference (In-person/Virtual)*, Madrid, Spain, Dec 7–11, 2021, 6 pages.
21. Guanyu Wang, Ting Zhong, Xovee Xu, Kunpeng Zhang, Fan Zhou\*, and Yong Wang. 2021. Vector-quantized autoencoder with copula for collaborative filtering. *ACM International Conference on Information and Knowledge Management (CIKM)*, Virtual Event, Nov 1–5, 2021, pp. 3458–3462.
22. Fan Zhou, Liu Yu, Xovee Xu\*, and Goce Trajcevski. 2021. Decoupling representation and regressor for long-tailed information cascade prediction. *International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR)*, Virtual Event, Jul 11–15, 2021, pp. 1875–1879.
23. Fan Zhou, Xiuxiu Qi, Xovee Xu, Jiahao Wang\*, Ting Zhong, and Goce Trajcevski. 2020. Meta-learned user preference for topic participation prediction. *IEEE Global Communications Conference (GLOBECOM), Virtual Conference*, Dec 7–11, 2020, 6 pages.
24. Fan Zhou, Zijing Wen, Ting Zhong\*, Goce Trajcevski, Xovee Xu, and Leyuan Liu. 2020. Unsupervised user identity linkage via graph neural networks. *IEEE Global Communications Conference (GLOBECOM), Virtual Conference*, Dec 7–11, 2020, 6 pages.
25. Fan Zhou, Xin Jing, Xovee Xu, Ting Zhong, Goce Trajcevski, and Jin Wu\*. 2020. Continual information cascade learning. *IEEE Global Communications Conference (GLOBECOM), Virtual Conference*, Dec 7–11, 2020, 6 pages.
26. Fan Zhou, Xovee Xu, Kunpeng Zhang, Goce Trajcevski, and Ting Zhong\*. 2020. Variational information diffusion for probabilistic cascade prediction. *IEEE International Conference on Computer Communications (INFOCOM)*, Virtual Conference, Jul 6–9, 2020, pp. 1618–1627.  
**INFOCOM 2020 Student Conference Award**

## Posters & Abstracts

27. Fan Zhou\*, Man Fang, and Xovee Xu. 2023. Machine learning for electrolyte multi-parameter mapping (Forum speech abstract). *The 6th Forum of Materials Genome Engineering*, Hangzhou, China, Feb 16–18, 2023.
28. Tangjiang Qian<sup>†</sup>, Xovee Xu<sup>†</sup>, Zhe Xiao, Ting Zhong\*, and Fan Zhou. 2023. A probabilistic graph diffusion model for source localization (Student abstract). *AAAI Conference on Artificial Intelligence (AAAI)*, Washington DC, USA, Feb 7–14, 2023, pp. 16306–16307.
29. Zhangtao Cheng, Xovee Xu, Ting Zhong<sup>†</sup>, Fan Zhou, and Goce Trajcevski. 2023. CasODE: Modeling irregular information cascade via neural ordinary differential equations (Student abstract). *AAAI Conference on Artificial Intelligence (AAAI)*, Washington DC, USA, Feb 7–14, 2023, pp. 16192–16193.
30. Liu Yu, Xovee Xu, Ting Zhong, Goce Trajcevski, and Fan Zhou\*. 2022. Linking Transformer to Hawkes process for information cascade prediction (Student abstract). *AAAI Conference on Artificial Intelligence (AAAI)*, Vancouver, Canada, Feb 22 – Mar 1, 2022, pp. 13103–13104.
31. Haoyang Yu, Xovee Xu, Ting Zhong, and Fan Zhou\*. 2022. Fine-grained urban flow inference via normalizing flows (Student abstract). *AAAI Conference on Artificial Intelligence (AAAI)*, Vancouver, Canada, Feb 22 – Mar 1, 2022, pp. 13101–13102.

32. Guanyu Wang, Xovee Xu, Ting Zhong\*, and Fan Zhou. 2022. Conditional collaborative filtering process for top-k recommender system (Student abstract). AAAI Conference on Artificial Intelligence (AAAI), Vancouver, Canada, Feb 22 – Mar 1, 2022, pp. 13073–13074.

### Pre-print

33. Fan Zhou, Xovee Xu, Ce Li, Goce Trajcevski, Ting Zhong, and Kunpeng Zhang. 2020. A heterogeneous dynamical graph neural networks approach to quantify scientific impact. arXiv:2003.12042, Mar 2020, 8 pages.

### Thesis

1. Xovee Xu. 2021. A research of information diffusion models and popularity prediction using graph neural networks (in Chinese). Master's Thesis. School of Information and Software Engineering, University of Electronic Science and Technology of China (UESTC), Chengdu, Sichuan, China, Jun 2021, 93 pages. Advisor: Ting Zhong. Committee chair: Jingye Cai.  
**Excellent Master Thesis of UESTC (105/4929)**

### Patent

1. Fan Zhou, Zhangtao Cheng, Zhe Xiao, Xovee Xu, and Ting Zhong. 2022. Information cascade popularity prediction method and system based on probability diffusion. China Invention Patent, No. CN116308854A, Filed Dec 9, 2022.
2. Fan Zhou, Zhangtao Cheng, Zhe Xiao, Xovee Xu, and Ting Zhong. 2022. Information diffusion prediction system and method based on meta-knowledge learning. China Invention Patent, No. CN115936120A, Filed Dec 8, 2022.
3. Fan Zhou, Liu Yu, Ting Zhong, Xovee Xu, and Ping Kuang. 2022. Information cascade prediction system and method based on Transformer-enhanced Hawkes process. China Invention Patent, No. CN115409155A, Filed Aug 17, 2022.
4. Fan Zhou, Chengtai Cao, Ting Zhong, and Xovee Xu. 2021. Meta-learner based training data generation method and causal effect heterogeneous reaction difference estimation method. China Invention Patent, No. CN113095440A, Filed Apr 30, 2021, Issued May 17, 2022.

### Conference Presentation

- |   |      |
|---|------|
| 48 <sup>th</sup> IEEE International Conference on Acoustics, Speech, and Signal Processing, Rhodes Island, Greece | 2023 |
| 39 <sup>th</sup> IEEE International Conference on Computer Communications (INFOCOM), Virtual Conference           | 2020 |

### Competition

- |   |      |
|---|------|
| <b>Weibo Diffusion Popularity Prediction Track</b> , AI Algorithm Competition             | 2021 |
| Honorable Mention. Group member: Xovee Xu, Ce Li, and Zhiyuan Wang                        |      |
| Organizer: People's Daily Online, State Key Laboratory of Communication Content Cognition |      |

## Dataset

|   |      |
|---|------|
| MDCC: A Multimodal Dynamic Dataset for Donation-based Crowdfunding Campaigns<br><a href="https://github.com/Jiayang-L1/mdcc">https://github.com/Jiayang-L1/mdcc</a> | 2023 |
| DiDi-Xi'an Dataset for Fine-Grained Urban Flow Inference<br><a href="https://github.com/PattonYu/fufi-didi-xian">https://github.com/PattonYu/fufi-didi-xian</a>     | 2022 |

## Demo & Resource

|   |      |
|---|------|
| CANV: Co-Authorship Network Visualization, <a href="https://github.com/Xovee/canv">https://github.com/Xovee/canv</a>  | 2021 |
| LaTeX Template of Curriculum Vitae, <a href="https://github.com/Xovee/latex-cv">https://github.com/Xovee/latex-cv</a> | 2021 |
| UESTC Course Materials, <a href="https://github.com/Xovee/uestc-course">https://github.com/Xovee/uestc-course</a>     | 2019 |

## Distinction (Longer List)

### Student Award & Scholarship

|  |             |                    |      |
|--|-------------|--------------------|------|
| Graduate Academic Scholarship - First Prize (Doctoral), ¥18K | 10%         | UESTC              | 2023 |
| Wuliangye Innovation Scholarship, ¥20K                       | -           | Wuliangye Co.,Ltd. | 2022 |
| Graduate Academic Scholarship - First Prize (Doctoral), ¥18K | 10%         | UESTC              | 2022 |
| Academic Rising Star, ¥3K                                    | 5%          | UESTC              | 2022 |
| Excellent Graduate Student (PhD Program)                     | -           | UESTC              | 2022 |
| AAAI-22 Scholarship  | -           | AAAI               | 2022 |
| PhD Entrance Scholarship                                     | -           | UESTC              | 2021 |
| Excellent Master Thesis                                      | 105 of 4929 | UESTC              | 2021 |
| Excellet Graduate Student (Master Program)                   | -           | UESTC              | 2020 |
| Graduate Academic Scholarship - First Prize (Master's), ¥10K | 20%         | UESTC              | 2020 |
| INFOCOM 2020 Student Conference Award                        | -           | IEEE ComSoc        | 2020 |

## Teaching Experience

|  |             |
|--|-------------|
| <b>C Programming Language</b>  | Spring 2020 |
| Teaching Assistant, with Prof. Ting Zhong, at UESTC                            |             |
| <b>Software Project Management</b>   | Summer 2019 |
| Teaching Assistant, with Prof. Gianmario Motta (University of Pavia), at UESTC |             |

## Industrial Experience

|  |                     |
|--|---------------------|
| <b>Kash Institute of Electronics and Information Industry</b> , Kashi, Xinjiang, China | Jul - Aug 2023      |
| Research Intern, on designing crowdfunding simulation algorithms                       |                     |
| <b>Ant Group</b> , Hangzhou, Zhejiang, China   | Dec 2022 - Jan 2023 |

|  |                 |
|--|-----------------|
| Algorithm Engineer Intern, on building large-scale service-content knowledge graph<br>PICC Property & Casualty Co. Ltd., Chengdu, Sichuan, China | Feb - May, 2018 |
| Software Test Engineer Intern, on large-scale insurance systems<br>Chengdu Gluxen Tech. Co. Ltd., Chengdu, Sichuan, China                        | Feb - Jul, 2017 |
| Web Developer Intern, on designing webpages  |                 |

## Student

### Co-Mentored Student

Followings are students that I co-mentored with Profs. Fan Zhou and Ting Zhong

Jiayang Li, MS, 2022 - 2025  
Haoyang Yu, MS, 2021 - 2024  
Zhangtao Cheng, MS, 2020 - 2023

## Erdős Number for Fun

Paul Erdős  $\xrightarrow{1}$  János Pach  $\xrightarrow{2}$  Hervé Brönnimann  $\xrightarrow{3}$  Goce Trajcevski  $\xrightarrow{4}$  Xovee Xu

## Language

Native Chinese (Mandarin & Northern Shaanxi Dialect)  
Fluent English