

Yuecheng Li

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Education

- 2022 – Present 📖 **M.Sc. Computer Science, Sun Yat-sen University (SYSU, Project 985), China.**
Honor: First Prize Scholarship, One-Star Volunteer, Postgraduate Exempt from Exam.
- 2018 – 2022 📖 **B.Sc. Computational Mathematics, Sun Yat-sen University, China.**
Honor: Second Prize Scholarship, Outstanding Branch Secretary of Youth League.
Thesis: The Research on Community Detection Algorithm based on Contrastive Learning.

Research Publications

Conference Proceedings

- 1 Yuecheng Li, J. Chen, C. Chen, L. Yang, and Z. Zheng, “**Contrastive Deep Nonnegative Matrix Factorization for Community Detection**,” in *arXiv preprint arXiv:2311.02357*, Accepted by ICASSP2024 (CCF B) [paper] [code].
- 2 Yuecheng Li, Y. Hu, L. Fu, C. Chen, L. Yang, and Z. Zheng, “**Community-Aware Efficient Graph Contrastive Learning via Personalized Self-Training**,” in *arXiv preprint arXiv:2311.11073*, 2023, Under Review [paper].
- 3 Yuecheng Li, T. Wang, C. Chen, *et al.*, “**Clients Collaborate: Flexible Differentially Private Federated Learning with Guaranteed Improvement of Utility-Privacy Trade-off**,” in *arXiv preprint arXiv:2402.07002*, 2024, Under Review [paper].





Journal Articles

- 1 C. Chen, Yuecheng Li (first author in students), Z. Wu, *et al.*, “**Privacy Computing Meets Metaverse: Necessity, Taxonomy and Challenges**,” *arXiv preprint arXiv:2304.11643*, 2023, Accepted by Ad Hoc Networks 2024 (CCF C) [paper] [code].
- 2 L. Fu, S. Huang, Yuecheng Li, C. Chen, C. Zhang, and Z. Zheng, “**Learning the Global Prompt in the Low-rank Tensor Space for Heterogeneous Federated Learning**,” 2023, Submitted to Neural Networks, Under Review.
- 3 L. Fu, Yuecheng Li, S. Huang, C. Chen, C. Zhang, and Z. Zheng, “**Parameter-oriented Contrastive Schema and Multi-level Knowledge Distillation for Heterogeneous Federated Learning**,” 2023, Submitted to Information Fusion, Under Review.


R&D Projects

- 2023 📖 **Key Researcher of Algorithm**, responsible for multimodal data mining involving text and tables, as well as the optimization of **transformer** and **time series** models (**Merchants Union Consumer Finance Company Limited: Horizontal Project**).
- 2022 - 2023 📖 **Key Developer of System**, responsible for the development of **federated smart contracts** based on Golang and the research on **incentive mechanism design** for federated learning (**Open Fund: The Research on Federated Learning based on Blockchain**).


Awards and Achievements

- 2023  **Runner-up (Solo)**, AFAC2023 Fintech AI Challenge: Fund Trend Simulation Prediction Contest, **Organizers**: CCF, Ant Group.
-  **Excellence Award (Top 6, Solo)**, ICDM 2023 TuGraph Competition: Pretrained Model-based Community Detection and Fraudulent Group Mining, **Organizers**: ICDM2023, Ant Group, Zhejiang University.
- 2019 & 2020  **Second Prize**, The 11th&12th National College Student Mathematics Competition (**Mathematics A Category**), **Organizers**: Chinese Mathematical Society.
- 2019  **Second Prize (Leader)**, The Guangdong Provincial Competition of the 2019 Contemporary Undergraduate Mathematical Contest in Modeling, **Organizers**: China Society for Industrial and Applied Mathematics.



Invited Talk

- 2023  Inviter: **Shenzhen Transsion Holdings Co., Ltd.**
Title: **When Federated Learning Meets Differential Privacy**.




Patent

- 2023  **Community Detection Method, Apparatus, Computer Device, and Storage Medium** (Publication No. CN116383441A, Initiative for Examination as to Substance).




Related Courses

- Graduate Course  Data Privacy Protection and Secure Computing (94/100), Professional Practice (99/100), Machine Learning (92/100), Multimedia Content Security (92/100), Frontier and Practice of Engineering Technology (99/100).
- Undergraduate Course  Mathematical Analysis (93/100), Mathematical Statistics (95/100), Stochastic Processes (96/100), Optimization Methods (95/100), Applications of Matlab (100/100), Digital Signal Processing (100/100).

Skills

- Languages**  Strong English reading, writing, and speaking abilities (CET-6).
- Coding & Typesetting**  Python, Matlab, \LaTeX , ...
- ML Frameworks**  LightGBM, PyTorch, PyTorch Geometric, DGL, Opacus.

Service

- 2022 - Present  **Reviewer**: IEEE Internet of Things Journal, KDD 2024.
- 2022 - 2023  **Teaching Assistant**: Linear Algebra and Analytic Geometry (SYSU).
- 2019 - 2020  **Branch Secretary of the Youth League**: Class 1, Mathematics Major, SYSU (Zhuhai).

References

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