

# Liangwei Yang

## Contact Information

Date of Birth 1996.04.03

Affiliation **Research Scientist**

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🔄 : 2024/10/30

## Research Interests

Summary I am working in the fields of **Data Mining** and **Recommender System**. I have published **31 papers** in peer-reviewed conferences/journals including **WWW**, **SIGIR**, **CIKM**, **WSDM**, **TIST**, and others.

Impact My works have received in total **1050+** citations, with **H-index: 14** (by [Google Scholar](#))

Keywords Data Mining, Recommender System, Personalization

## Education Background

**University of Illinois Chicago (UIC)**

Chicago, IL, USA

2020/09-2024/12 Ph.D. Student, Department of Computer Science  
Big Data and Social Computing Lab  
Advisor: Prof. Philip S. Yu

**University of Electronic Science and Technology of China (UESTC)** Chengdu, China

2017/09-2020/07 Master Degree, Computer Science and Technology

**University of Electronic Science and Technology of China (UESTC)** Chengdu, China

2013/09-2017/07 Bachelor Degree, Electronics Science and Technology

## Publications (Full List, Ordered by Contribution)

‡ : equal contribution

† : corresponding author

Summary Published 31 papers (including 7 first-authored papers, 2 co-first authored papers and 2 corresponding authored papers)

### Published Paper

- **Liangwei Yang**, Zhiwei Liu, Jianguo Zhang, Rithesh Murthy, Shelby Heinecke, Huan Wang, Caiming Xiong & Philip S. Yu. Personalized Multi-task Training for Recommender System. **IEEE BigData**, 2024
- **Liangwei Yang**, Zhiwei Liu, Chen Wang, Mingdai Yang, Xiaolong Liu, Jing Ma & Philip S. Yu. Graph-based Alignment and Uniformity for Recommendation. **CIKM**, 2023. (**Best Short Paper Honorable Mention**)
- **Liangwei Yang**, Shengjie Wang, Yunzhe Tao, Jiankai Sun, Xiaolong Liu, Philip S. Yu & Taiqing Wang. DGRec: Graph Neural Network for Recommendation with Diversified Embedding Generation. **WSDM**, 2023.
- **Liangwei Yang**, Zhiwei Liu, Yu Wang, Chen Wang, Ziwei Fan & Philip S. Yu. Large-scale personalized video game recommendation via social-aware contextualized graph neural network. **WWW**, 2022.
- **Liangwei Yang**, Zhiwei Liu, Yingtong Dou, Jing & Philip S. Yu. Consisrec: Enhancing gnn for social recommendation via consistent neighbor aggregation. **SIGIR**, 2021.
- **Liangwei Yang**, Hui Gao, Keyu Wu, Haotian Zhang, Changyu Li, Lixia Tang. Identification of cancerlectins by using cascade linear discriminant analysis and optimal g-gap

- tripeptide composition. **Current Bioinformatics**, 15(6), 2020.
- Liangwei Yang, Hui Gao, Zhen Liu, Lixia Tang. Identification of phage virion proteins by using the g-gap tripeptide composition. **Letters in Organic Chemistry**, 16(4), 2019.
  - Xi Wu<sup>‡</sup>, Liangwei Yang<sup>‡</sup>, Jibing Gong, Chao Zhou, Tianyu Lin, Xiaolong Liu & Philip S. Yu. Dimension Independent Mixup for Hard Negative Sample in Collaborative Filtering. **CIKM**, 2023.
  - Shen Wang<sup>‡</sup>, Liangwei Yang<sup>‡</sup>, Jibing Gong, Shaojie Zheng, Shuying Du, Zhiwei Liu & Philip S. Yu. MetaKRec: Collaborative Meta-Knowledge Enhanced Recommender System. **BigData**, 2022.
  - Jing Ma, Liangwei Yang<sup>‡</sup>, Qiong Feng, Weizhi Zhang & Philip S. Yu. Graph-based Village Level Poverty Identification. **WWW**, 2023.
  - Chaoguang Luo, Liuying Wen, Yong Qin, Liangwei Yang<sup>‡</sup>, Zhineng Hu, & Philip S. Yu. Against Filter Bubbles: Diversified Music Recommendation via Weighted Hypergraph Embedding Learning. **NeuroComputing**, 2024.
  - Weizhi Zhang, Liangwei Yang, Zihe Song, Henry Peng Zou, Ke Xu, Liancheng Fang, Philip S. Yu. Do We Really Need Graph Convolution During Training? Light Post-Training Graph-ODE for Efficient Recommendation. **CIKM**, 2024.
  - Xiaolong Liu, Liangwei Yang, Zhiwei Liu, Mingdai Yang, Chen Wang & Philip S. Yu. Knowledge Graph Context-Enhanced Diversified Recommendation. **WSDM**, 2024.
  - Xiaolong Liu, Liangwei Yang, Chen Wang, Mingdai Yang, Zhiwei Liu, and S. Yu Philip. Multi-view Graph Convolution for Participant Recommendation. **IEEE BigData**, 2023.
  - Weizhi Zhang, Liangwei Yang, Yuwei Cao, Ke Xu, Yuanjie Zhu & Philip S. Yu. Dual-Teacher Knowledge Distillation for Strict Cold-Start Recommendation. **IEEE BigData**, 2023.
  - Xiaolong Liu, Liangwei Yang, Zhiwei Liu, Xiaohan Li, Mingdai Yang, Chen Wang & Philip S. Yu. Group-Aware Interest Disentangled Dual-Training for Personalized Recommendation. **IEEE BigData**, 2023.
  - Yuwei Cao, Liangwei Yang, Chen Wang, Zhiwei Liu, Hao Peng, Chenyu You & Philip S. Yu. Multi-task Item-attribute Graph Pre-training for Strict Cold-start Item Recommendation. **RecSys**, 2023.
  - Jing Ma, Liangwei Yang & Zhineng Hu. A Counterfactual Assessment of Poverty Alleviation Sustainability on Multiple Non-equivalent Household Groups. **Population Research and Policy Review**, 41(5), 2022.
  - Zhiwei Liu, Liangwei Yang, Ziwei Fan, Hao Peng & Philip S. Yu. Federated social recommendation with graph neural network. **ACM Transactions on Intelligent Systems and Technology**, 13(4), 2022.
  - Chungu Guo, Liangwei Yang, Xiao Chen, Duanbing Chen, Hui Gao, Jing Ma. Influential nodes identification in complex networks via information entropy. **Entropy**, 22(2), 2020.
  - Mingdai Yang, Zhiwei Liu, Liangwei Yang, Xiaolong Liu, Chen Wang, Hao Peng, Philip S. Yu. Instruction-based Hypergraph Pretraining. **SIGIR**, 2024.
  - Mingdai Yang, Zhiwei Liu, Liangwei Yang, Xiaolong Liu, Chen Wang, Hao Peng & Philip S. Yu. Unified Pretraining for Recommendation via Task Hypergraphs. **WSDM**, 2024.
  - Mingdai Yang, Zhiwei Liu, Liangwei Yang, Xiaolong Liu, Chen Wang, Hao Peng & Philip S. Yu. Group Identification via Transitional Hypergraph Convolution with Cross-view Self-supervised Learning. **CIKM**, 2023.
  - Yu Wang, Zhiwei Liu, Liangwei Yang & Philip S. Yu. Conditional Denoising Diffusion for Sequential Recommendation. **PAKDD**, 2024.
  - Mingdai Yang, Zhiwei Liu, Liangwei Yang, Xiaolong Liu, Chen Wang, Hao Peng & Philip S. Yu. Ranking-based group identification via factorized attention on social tripartite graph. **WSDM**, 2023.
  - Dennis Nii Ayeh Mensah, Hui Gao, Liangwei Yang. Approximation algorithm for shortest path in large social networks. **Algorithms**, 13(2), 2020.
  - Zhineng Hu, Jing Ma, Liangwei Yang, Liming Yao, Meng Pang. Monthly electricity

demand forecasting using empirical mode decomposition-based state space model. **Energy & Environment**, 30(7), 2019.

- Zhineng Hu, Jing Ma, **Liangwei Yang**, Xiaoping Li, Meng Pang. Decomposition-based dynamic adaptive combination forecasting for monthly electricity demand. **Sustainability**, 11(5), 2019.
- Yu Wang, Hengrui Zhang, Zhiwei Liu, **Liangwei Yang** & Philip S. Yu. Contrastvae: Contrastive variational autoencoder for sequential recommendation. **CIKM**, 2022.
- Zhiwei Liu, Weiran Yao, Jianguo Zhang, **Liangwei Yang**, Zuxin Liu, Juntao Tan, Prafulla K Choubey, Tian Lan, Jason Wu, Huan Wang, Shelby Heinecke, Caiming Xiong, Silvio Savarese. AgentLite: A Lightweight Library for Building and Advancing Task-Oriented LLM Agent System
- Zhiwei Liu, Weiran Yao, Jianguo Zhang, Zuxin Liu, **Liangwei Yang**, Rithesh R N, Tian Lan, Ming Zhu, Juntao Tan, Shirley Kokane, Thai Quoc Hoang, Juan Carlos Niebles, Shelby Heinecke, Huan Wang, Silvio Savarese, Caiming Xiong. PRACT: Optimizing Principled Reasoning and Acting of LLM Agent. CoNLL@EMNLP, 2024.
- Zuxin Liu, Thai Hoang, Jianguo Zhang, Ming Zhu, Tian Lan, Shirley Kokane, Juntao Tan, Weiran Yao, Zhiwei Liu, Yihao Feng, Rithesh Murthy, **Liangwei Yang**, Silvio Savarese, Juan Carlos Niebles, Huan Wang, Shelby Heinecke, Caiming Xiong. Apigen: Automated pipeline for generating verifiable and diverse function-calling datasets. **NIPS**, 2024.
- Jianguo Zhang, Tian Lan, Rithesh Murthy, Zhiwei Liu, Weiran Yao, Juntao Tan, Thai Hoang, **Liangwei Yang**, Yihao Feng, Zuxin Liu, Tulika Awalgaonkar, Juan Carlos Niebles, Silvio Savarese, Shelby Heinecke, Huan Wang, Caiming Xiong. AgentOhana: Design Unified Data and Training Pipeline for Effective Agent Learning.

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## Academic Presentations

2023/05	The WebConf 2023	Austin, Texas, USA
2023/04	The 16th ACM International Conference on Web Search and Data Mining	Online
2023/03	The IRLab @ the University of Amsterdam (Invited Talk)	Online
2023/02	DEFIRST Reading Group @ Mila x Vector Institute (Invited Talk)	Online
2022/04	The WebConf 2022	Online
2021/07	The 44th International ACM SIGIR Conference on Research and Development in Information Retrieval	Online

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## Selected Awards, Honors, & Scholarships

2023	CIKM Best Short Paper Honorable Mention	Chicago, USA
2023	SIGIR Student Travel Award	Chicago, USA
2022	IEEE BigData Student Travel Award	Chicago, USA

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## Services

**Conference Reviewer** IJCAI 2021, CIKM 2022/2023/2024, KDD 2022/2023/2024/2025, WSDM 2022, AAAI 2023/2024, NIPS 2022/2023/2024, ICML 2023/2024, RecSys 2023/2024, LOG 2023, SDM 2024, ICLR 2024/2025, WWW 2024/2025, PAKDD 2024

**Journal Reviewer** TKDD, TKDE, TPAMI, JMLC, TORS, CIM, JEST, ESWA, NeuroComputing, IS

**Student Volunteer** WSDM 2022

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## Teaching Experiences

Fall 2023	Teaching Assistant, Advanced Data Mining (CS 584), Instructor: Philip S. Yu	UIC
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## Industry Experiences

2023	Research Intern. Salesforce Research	Palo Alto, USA
2022	Research Intern. ByteDance AML Research	Seattle, USA
2019	Research Intern & Algorithm Engineer. Unionbigdata.	Chengdu, China

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## Computer and Communication Skills

Computing	Python, Pytorch, DGL	◇ Visualization: Matplotlib
Language	English (fluent), Chinese Mandarin (native)	◇ Typesetting: $\LaTeX$ , MS Office, Markdown

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## References

**Philip S. Yu**, Distinguished Professor  
Wexler Chair in Information Technology  
University of Illinois Chicago, Chicago, IL, USA  
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