Liangwei Yang

Contact Information

Occupation Research Scientist
Affiliation Salesforce Research   ✉ : liangwei.yang@salesforce.com
Office 181 Lytton Ave, Palo Alto, CA 94301   ↻ : 2025/12/01

Research Interests

Summary I am working in the fields of **Agent** and **Data Mining**. I have published **39 papers** in peer-reviewed conferences/journals including **WWW**, **SIGIR**, **CIKM**, **WSDM**, **TIST**, and others.

Impact My works have received in total **2200+ citations**, with **H-index: 20** (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. Degree, Department of Computer Science

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

Work Experience

2024/01-now **Salesforce Research, Research Scientist**   Palo Alto, CA, USA
2023/05-2023/11 **Salesforce Research, Research Intern**   Palo Alto, CA, USA
2022/05-2022/08 **Bytedance, Research Intern**   Chicago, Illinois, USA

Publications (Full List, Ordered by Contribution)

‡ : equal contribution   † : corresponding author

Summary Published 39 papers (including 7 first-authored papers, 2 co-first authored papers, 14 second authored papers and 3 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[‡], **Liangwei Yang**[‡], 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[‡], **Liangwei Yang**[‡], Jibing Gong, Shaojie Zheng, Shuying Du, Zhiwei Liu & Philip S. Yu. MetaKRec: Collaborative Meta-Knowledge Enhanced Recommender System. **BigData**, 2022.

○ Jing Ma, **Liangwei Yang**[†], Qiong Feng, Weizhi Zhang & Philip S. Yu. Graph-based Village Level Poverty Identification. **WWW**, 2023.

○ Chaoguang Luo, Liuying Wen, Yong Qin, **Liangwei Yang**[†], 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, Yuanjie Zhu, Philip S. Yu. SGCL: Unifying Self-Supervised and Supervised Learning for Graph Recommendation. **RecSys**, 2025.

○ Yueqing Liang, **Liangwei Yang**, Chen Wang, Congying Xia, Rui Meng, Xiongxiao Xu, Haoran Wang, Ali Payani, and Kai Shu. "Benchmarking llms for political science: A united nations perspective." **AAAI**, 2026.

○ Juntao Tan, **Liangwei Yang**, Zuxin Liu, Zhiwei Liu, Rithesh Murthy, Tulika Manoj Awalgaonkar, Jianguo Zhang et al. "Personabench: Evaluating ai models on understanding personal information through accessing (synthetic) private user data." **ACL**, 2025.

○ Weizhi Zhang, **Liangwei Yang**, Wooseong Yang, Henry Peng Zou, Yuqing Liu, Ke Xu, Sourav Medya, and Philip S. Yu. "Llminit: A free lunch from large language models for selective initialization of recommendation." **EMNLP**, 2025.

○ Yuwei Cao, **Liangwei Yang**, Zhiwei Liu, Yuqing Liu, Chen Wang, Yueqing Liang, Hao Peng, Philip S. Yu. Graph-Sequential Alignment and Uniformity: Toward Enhanced Recommendation Systems. **WWW, 2025**.

○ 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. Training Large Recommendation Models via Graph-Language Tokens Alignment. **WWW, 2025**

○ 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.

Pre-print Paper

○ **Liangwei Yang**, Jing Ma, Jianguo Zhang, Zhiwei Liu, Jielin Qiu, Shirley Kokane, Shiyu Wang et al. "GeoGNN: Quantifying and Mitigating Semantic Drift in Text-Attributed Graphs." arXiv preprint arXiv:2511.09042 (2025).

○ **Liangwei Yang**, Yuhui Xu, Juntao Tan, Doyen Sahoo, Silvio Savarese, Caiming Xiong, Huan Wang, and Shelby Heinecke. "Entropy-Based Block Pruning for Efficient Large Language Models." arXiv preprint arXiv:2504.03794 (2025).

○ Wu, Xi, Dan Zhang, Chao Zhou, Liangwei Yang, Tianyu Lin, and Jibing Gong. "RAU:

Towards Regularized Alignment and Uniformity for Representation Learning in Recommendation." arXiv preprint arXiv:2503.18300 (2025).

- **Liangwei Yang**, Hengrui Zhang, Weizhi Zhang, Zihe Song, Jing Ma, Jiawei Zhang,& Philip S. Yu. Cyclic Neural Network

- Rithesh Murthy‡, **Liangwei Yang**‡, Juntao Tan‡, Tulika Manoj Awalgaonkar‡, Yilun Zhou, Shelby Heinecke, Sachin Desai, Jason Wu, Ran Xu, Sarah Tan, Jianguo Zhang, Zhiwei Liu, Shirley Kokane, Zuxin Liu, Ming Zhu, Huan Wang, Caiming Xiong, Silvio Savarese. MobileAIBench: Benchmarking LLMs and LMMs for On-Device Use Cases.

- Yuanjie Zhu, **Liangwei Yang**†, Yu Wang, Ke Xu, Weizhi Zhang, Zihe Song & Philip S. Yu. Personalized Adaptive Diffusion for Recommender System.

- Yuanjie Zhu, **Liangwei Yang**, Ke Xu, Weizhi Zhang, Zihe Song, Jindong Wang, and Philip S. Yu. "LLM-MemCluster: Empowering Large Language Models with Dynamic Memory for Text Clustering." arXiv preprint arXiv:2511.15424 (2025).

- Murthy, Rithesh, Ming Zhu, **Liangwei Yang**, Jielin Qiu, Juntao Tan, Shelby Heinecke, Caiming Xiong, Silvio Savarese, and Huan Wang. "Promptomatix: An automatic prompt optimization framework for large language models." arXiv preprint arXiv:2507.14241 (2025).

- Qiu, Jielin, Zuxin Liu, Zhiwei Liu, Rithesh Murthy, Jianguo Zhang, Haolin Chen, Shiyu Wang et al. "Locobench: A benchmark for long-context large language models in complex software engineering." arXiv preprint arXiv:2509.09614 (2025).

- Qiu, Jielin, Zuxin Liu, Zhiwei Liu, Rithesh Murthy, Jianguo Zhang, Haolin Chen, Shiyu Wang et al. "LoCoBench-Agent: An Interactive Benchmark for LLM Agents in Long-Context Software Engineering." arXiv preprint arXiv:2511.13998 (2025).

- Yue, Murong, Zhiwei Liu, **Liangwei Yang**, Jianguo Zhang, Zuxin Liu, Haolin Chen, Ziyu Yao et al. "ToolLibGen: Scalable Automatic Tool Creation and Aggregation for LLM Reasoning." arXiv preprint arXiv:2510.07768 (2025).

Academic Presentations

2025/10	CS 584 BDSC Lab	Chicago, Illinois, USA
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

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

Services

Area Chair ARR

Conference Reviewer IJCAI 2021, CIKM 2022/2023/2024, KDD 2022/2023/2024/2025/2026, WSDM 2022, AAAI 2023/2024/2025/2026, NeuIPS 2022/2023/2024/2025, ICML 2023/2024, RecSys 2023/2024, LOG 2023, SDM 2024, ICLR 2024/2025/2026, WWW 2024/2025/2026, PAKDD 2024

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

Committee Member	Mingdai Yang
Student Volunteer	WSDM 2022

Teaching Experiences

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

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

Computer and Communication Skills

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