Ziwei Fan

2801 S King Drive
Chicago, IL 60616

Cell: +1(773)551-6170
E-mail: zfan20@uic.edu
Homepage: Google Scholar

Education

- University of Illinois Chicago (UIC), Chicago, IL, USA   08/2018 - 05/2023
  - Ph.D student, Computer Science
  - Advisor: Prof. Philip S. Yu
- Purdue University - Indianapolis (IUPUI), IN, USA   08/2016 - 05/2018
  - Master of Science, Computer & Information Science
- South China Agricultural University (SCAU), Guangzhou, China   09/2012 - 06/2016
  - Bachelor of Engineering, College of Mathematics and Informatics

Experience

- **Research and Teaching Assistant**, Dept. of CS, UIC, Chicago, IL, USA   08/2018 - 05/2023
  - Topic: Mutual Wasserstein Discrepancy Minimization for Recommendation (Submitted).
  - Topic: Sequential Recommendation with Multi-relation Self-Attention (BigData'22 [1]).
  - Topic: Stochastic Self-Attention for Sequential Recommendation (WWW'22 [2]).
  - Topic: Continuous-Time Sequential Recommendation (CIKM'21 [3]).
  - Topic: Modeling Sequences as Distributions (CIKM'21 [4], Best Short Paper Nomination).
  - Topic: Pre-training and history generation for Cold-Start User Recommendation (SIGIR'21 [5]).
  - Topic: Spectral Graph Convolution for Sequential Recommendation (SIGIR'19 [11]).
- **Research Intern**, Salesforce Research, Palo Alto, California, USA   05/2022 - 08/2022
  - Mentor: Zhiwei Liu and Yongjun Chen
  - Topic: Product Knowledge Graph Pre-training.
- **Applied Scientist Intern**, AWS Personalize, Santa Clara, California, USA   02/2022 - 05/2022
  - Mentor: Nghia Hoang, Hao Ding, and Anoop Deoras
  - Topic: Personalized Federated Domain Adaptation Recommendation (Submitted).
- **Research Scientist Intern**, Spotify Research, NYC, New York, USA   05/2021 - 08/2021
  - Mentor: Alice Wang and Zahra Nazari
  - Topic: Discovery Episodes Ranking via Multi-source Augmentations.
- **Data Scientist Intern**, Stitch Fix Inc, San Francisco, CA, USA   05/2020 - 08/2020
  - Topic: Client-upload fashion images recommendation.
- **Research Assistant**, Dept. of CIS, IUPUI, Indianapolis, IN, USA   09/2016 - 04/2018
  - Topic: Local low-rank top-n recommendation with Sparse LInear Method (MLRec'17).
  - Topic: Collaborative filtering for electronic health record retrieval (ICHI'19, PLOS'21).
- **Research Assistant** (2*CCGrid'15, ICMLC'16), SCAU, Guangzhou, China   08/2013 - 03/2016

Publications

[1] **Ziwei Fan**, Zhiwei Liu, Chen Wang, Peijie Huang, Hao Peng, and Philip S Yu. Sequential recommendation with auxiliary item relationships via multi-relational transformer. In *2022 IEEE International Conference on Big Data (**BigData'22**)*. IEEE, 2022.

[2] **Ziwei Fan**, Zhiwei Liu, Alice Wang, Zahra Nazari, Lei Zheng, Hao Peng, and Philip S. Yu. Sequential recommendation via stochastic self-attention. In *Proceedings of the ACM Web Conference 2022 (**WWW'22**)*, page 20362047, New York, NY, USA, 2022. Association for Computing Machinery.

[3] **Ziwei Fan***, Zhiwei, Liu*, Jiawei Zhang, Yun Xiong, Lei Zheng, and Philip S. Yu. Continuous-time sequential recommendation with temporal graph collaborative transformer. In *Proceedings of the 30th ACM International Conference on Information & Knowledge Management (**CIKM'21**)*, CIKM '21, New York, NY, USA, 2021. Association for Computing Machinery.

[4] **Ziwei Fan**, Zhiwei Liu, Shen Wang, Lei Zheng, and Philip S. Yu. Modeling sequences as distributions with uncertainty for sequential recommendation. In *Proceedings of the 30th ACM International Conference on Information &; Knowledge Management (**CIKM'21**)*. Association for Computing Machinery, 2021.

[5] **Ziwei Fan***, Zhiwei, Liu*, Yu Wang, and Philip S. Yu. Augmenting sequential recommendation with pseudo-prior items via reversely pre-training transformer. In *Proceedings of the 44th International ACM SIGIR Conference on Research and Development in Information Retrieval (**SIGIR'21**)*, SIGIR '21, New York, NY, USA, 2021. Association for Computing Machinery.

[6] Liangwei Yang, Zhiwei Liu, Yu Wang, Chen Wang, **Ziwei Fan**, and Philip S. Yu. Large-scale personalized video game recommendation via social-aware contextualized graph neural network. In *Proceedings of the ACM Web Conference 2022 (**WWW'22**)*, page 33763386, New York, NY, USA, 2022. Association for Computing Machinery.

[7] Zhiwei Liu, Liangwei Yang, **Ziwei Fan**, Hao Peng, and Philip S. Yu. Federated social recommendation with graph neural network. New York, NY, USA, Nov 2021. Association for Computing Machinery. Just Accepted.

[8] Xia Ning, **Ziwei, Fan**, Evan Burgun, Zhiyun Ren, and Titus Schleyer. Improving information retrieval from electronic health records using dynamic and multi-collaborative filtering. volume 16, page e0255467. Public Library of Science San Francisco, CA USA, 2021.

[9] Yu Wang, Zhiwei Liu, **Ziwei Fan**, Philip S Yu, and Lichao Sun. Dskreg: Differentiable sampling on knowledge graph for recommendation with relational gnn. In *Proceedings of the 30th ACM International Conference on Information & Knowledge Management CIKM 2021 (**CIKM'21**)*, pages 1893–1904. ACM, 2021.

[10] Zhiwei Liu, Xiaohan Li, **Ziwei Fan**, Stephen Guo, Kannan Achan, and Philip S. Yu. Basket recommendation with multi-intent translation graph neural network. 2020.

[11] Lei Zheng, **Ziwei Fan**, Chun-Ta Lu, Jiawei Zhang, and Philip S. Yu. Gated spectral units: Modeling co-evolving patterns for sequential recommendation. In *Proceedings of the 42nd International ACM SIGIR Conference on Research and Development in Information Retrieval (**SIGIR'19**)*, pages 1077–1080. ACM, 2019.

[12] **Ziwei Fan**, Evan Burgun, Titus Schleyer, and Xia Ning. Improving information retrieval from electronic health records using dynamic and multi-collaborative filtering. In *2019 IEEE International Conference on Healthcare Informatics (ICHI)*, pages 1–3, 2019.

[13] **Ziwei Fan** and Xia Ning. Local sparse linear model ensemble for top-*n* recommendation. In *The Third SDM Workshop on Machine Learning Methods for Recommender Systems (**SDMW'17**)*, MLRec'17, 2017.

[14] **Ziwei Fan**, Yingzhi Peng, Peijie Huang, Piyuan Lin, Yikui Chen, Zhenfa Chen, and Kaiyin Li. Empirical evaluation of contextual combinations in recommendation system. In *Machine Learning and Cybernetics, 2016 International Conference on (**ICMLC'16**)*, volume 2, pages 720–725. IEEE, 2016.

[15] **Ziwei Fan**, Peijie Huang, Peisen Huang, Linxiao Chen, Yuqing Xiao, Mingxiang Huo, and Yu Liang. A feature generation framework for google trace analysis. In *Machine Learning and Cybernetics, 2015 International Conference on (**ICMLC'15**)*, volume 1, pages 229–234. IEEE, 2015.

[16] Peijie Huang, Dashu Ye, **Ziwei Fan**, Peisen Huang, and Xuezhen Li. Discriminative model for google host load prediction with rich feature set. In *Cluster, Cloud and Grid Computing, 2015 15th IEEE/ACM International Symposium on (**CCGrid'15**)*, pages 1193–1196. IEEE, 2015.

[17] Xiaoyang Lin, Piyuan Lin, Peijie Huang, Linxiao Chen, **Ziwei Fan**, and Peisen Huang. Modeling the task of google mapreduce workload. In *Cluster, Cloud and Grid Computing, 2015 15th IEEE/ACM International Symposium on (**CCGrid'15**)*, pages 1229–1232. IEEE, 2015.

Professional Services

- Sub-Reviewer for (SIGIR'22, CIKM'22, AAAI'22), External Reviewer for (KDD'21 and KDD'22, ICDM'21), Reviewer for (TKDD, PeerJ, JMLC).

Skills

- **Programming Languages**: Python, Java, C, Shell, SQL
- **Software & Tools**: Tensorflow, Pytorch
- **Speaking Languages**: English, Mandarin, Cantonese

Awards

- **Peter and Deborah Wexler Graduate Student Award Scholarship, UIC**   2018 - 2019
- **Dean's Scholarship, IUPUI**   2017 - 2018
- **Undergraduate Merit Scholarship, SCAU**   2014 - 2015