

# Ziwei Fan

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Homepage

- Education**
- University of Illinois Chicago (UIC), Chicago, IL, USA 08/2018 - 05/2023
    - Computer Science Ph.D.
    - 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**
- **Applied Scientist**, Amazon AWS AI, Santa Clara, California, USA 05/2023 - Present
    - Working on Personalized Recommender Systems.
  - **Research and Teaching Assistant**, Dept. of CS, UIC, Chicago, IL, USA 08/2018 - 05/2023
    - Topic: Graph Denoising and Augmentations for Recommendation (SIGIR'23, Best Short Paper Honorable Mention).
    - Topic: Mutual Wasserstein Discrepancy Minimization for Recommendation (WWW'23).
    - Topic: Sequential Recommendation with Multi-relation Self-Attention (BigData'22).
    - Topic: Stochastic Self-Attention for Sequential Recommendation (WWW'22).
    - Topic: Continuous-Time Sequential Recommendation (CIKM'21).
    - Topic: Modeling Sequences as Distributions (CIKM'21, Best Short Paper Nomination).
    - Topic: Pre-training and history generation for Cold-Start User Recommendation (SIGIR'21).
    - Topic: Spectral Graph Convolution for Sequential Recommendation (SIGIR'19).
    - Teaching Assistant for Several UIC CS Undergraduate and Graduate Level Courses.
  - **Research Intern**, Salesforce Research, Palo Alto, California, USA 05/2022 - 08/2022
    - Mentor: Zhiwei Liu and Yongjun Chen
    - Topic: Product Knowledge Graph Pre-training (Submitted).
  - **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 Item-to-Item Recommendation (UAI'23).
  - **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 (Arxiv 2023).
  - **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-One'21).
  - **Research Assistant** (2\*CCGrid'15, ICMLC'16), SCAU, Guangzhou, China 08/2013 - 03/2016

**Selected  
Publications  
(Full List in  
Google  
Scholar)**

- [1] **Ziwei Fan**, Nghia Hoang, Hao Ding, and Anoop Deoras. Personalized federated domain adaptation for item-to-item recommendation. In *Proceedings of the 39th Conference on Uncertainty in Artificial Intelligence (UAI'23)*, 2023.
- [2] **Ziwei Fan**, Ke Xu, Zhang Dong, Hao Peng, Jiawei Zhang, and Philip S. Yu. Graph collaborative signals denoising and augmentation for recommendation. In *Proceedings of the 46th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR'23)*, 2023.
- [3] **Ziwei Fan**, Zhiwei Liu, Hao Peng, and Philip S. Yu. Mutual wasserstein discrepancy minimization for sequential recommendation. In *Proceedings of the ACM Web Conference 2023 (WWW'23)*, 2023.
- [4] **Ziwei Fan**, Alice Wang, and Zahra Nazari. Episodes discovery recommendation with multi-source augmentations. *arXiv preprint arXiv:2301.01737*, 2023.
- [5] **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)*, 2022.
- [6] **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.
- [7] **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.
- [8] **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)*, 2021.
- [9] **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.
- [10] 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, 2019.

**Professional  
Services**

- Sub-Reviewer for (ACL'23, IJCNN'23, SIGIR'22, CIKM'22, AAAI'22), External Reviewer for Conferences (IJCAI'23, KDD'(21,22), ICDM'21), Reviewer for Journals (TOIS, TKDE, TKDD, Neural Networks, PeerJ CS, 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