Shijun Li

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Education

University of Science and Technology of China, Hefei, China 09/2016 – 07/2020

B.Eng. in Automation, School of Information Science and Technology, GPA: 3.58/4.3, Rank: Top 20%

University of Science and Technology of China, Hefei, China 09/2020 – 07/2023 (expected)

Master's student in Electronic and Information Engineering, School of Information Science and Technology

Publications

- **Shijun Li**, Wenqiang Lei, Qingyun Wu, Xiangnan He, Peng Jiang & Tat-Seng Chua, "Seamlessly Unifying Attributes and Items: Conversational Recommendation for Cold-Start Users", in ACM Transactions on Information Systems **(TOIS 2021)**, [pdf] [codes]
- Chongming Gao*, **Shijun Li***, Wenqiang Lei, Jiawei Chen, Biao Li, Peng Jiang, Xiangnan He, Jiaxin Mao & Tat-Seng Chua, "KuaiRec: A Fully-observed Dataset and Insights for Evaluating Recommender Systems", (*** Equal contribution**), in Proceedings of the 31st ACM International Conference on Information and Knowledge Management (**CIKM 2022**, Full) , [pdf] [codes] [data] [Presentation]
- Chongming Gao*, **Shijun Li***, Yuan Zhang*, Jiawei Chen, Biao Li, Wenqiang Lei, Peng Jiang & Xiangnan He, "KuaiRand: An Unbiased Sequential Recommendation Dataset with Randomly Exposed Videos", (*** Equal contribution**), in Proceedings of the 31st ACM International Conference on Information and Knowledge Management (**CIKM 2022**, Short), [pdf] [data] [Poster]
- Chongming Gao, Wenqiang Lei, Jiawei Chen, Shiqi Wang, Xiangnan He, **Shijun Li**, Biao Li, Yuan Zhang & Peng Jiang, "CIRS: Bursting Filter Bubbles by Counterfactual Interactive Recommender System", arXiv preprint (submitted to **TOIS**, major revision), [pdf] [codes]

Selected Projects & Research

Project: Explore Interest of Cold-Start Users by Conversational Recommendation 03/2020 - 12/2020

Advisor: Prof. Xiangnan He(USTC), Prof. Wenqiang Lei(SCU), Prof. Qingyun Wu(PSU), Prof. Tat-Seng Chua(NUS)

- Actively asking users' preferences by conversations helps to efficiently capture the interest of cold-start users
- Propose a holistic framework to seamlessly solve all conversation policy questions in an end-to-end manner
- Apply Thompson Sampling to conversational recommendation for keeping EE balance in cold-start scenario

Project: Explore Trustworthy Evaluation for Conversational Recommendation 03/2021 - 12/2021

Advisor: Prof. Xiangnan He (USTC), Prof. Wenqiang Lei (SCU), Dr. Peng Jiang (Kuaishou Inc.)

- Collect a fully-observed dataset for the first time on Kuaishou, which is one of the largest short-video sharing Apps in China, with millions of user-item sequential interactions
- Study the effect of different exposure rates and various biases on the evaluation of conversational recommendation systems (CRSs)
- Investigate the effect of matrix completion, i.e. estimating the missing values, on the evaluation of CRSs

Project: Implement Reinfocement Learning in Real-World Recommender System 03/2022 - 07/2022

Advisor: Prof. Xiangnan He (USTC), Dr. Yuan Zhang (Kuaishou Inc.)

- Design an actor-critic based RL model for online recommendation for millions of users on Kuaishou
- Train the model in an offline RL manner by building and interacting with the world model
- Implement the RL model for the re-ranking task in real-world recommendation application, achieving significant improvement in users' total watch time and diversity of recommended videos

Project: Burst Filter Bubbles by Counterfactual Interactive Recommender System 12/2021 - 07/2022

Advisor: Prof. Xiangnan He (USTC), Prof. Jiawei Chen (ZJU), Prof. Wenqiang Lei (SCU)

- Analyze filter bubbles in interactive recommendation, focusing on the overexposure effect on user satisfaction
- Integrate causal inference into offline reinforcement learning to burst filter bubbles

Experience

Kuaishou Technology Co., Ltd. Beijing, China

Research Intern, Advisor: Prof. Xiangnan He, Dr. Yuan Zhang 03/2020 – Present

- Study the cold-start scenario and trustworthy evaluation of conversational recommendation, constructing two valuable datasets and accomplishing three papers
- Implement offline RL in real-world short video recommendation system, serving millions of people and achieving significant online improvement

University of Florida, SmartData Lab Florida, U.S.

Summer Research Intern, Advisor: Prof. Joel B. Harley 07/2019 – 08/2019

- Study the growth and boundaries of grains in microstructure in a RL framework, defining corresponding state and action space in RL
- Process and decode the pictures of microstructure into low-dimension expression, while denoising for the vagueness and noises in these pictures

Professional Services & Awards

- **PC Member** for the 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD 2022**), the 15th International Conference on Web Search and Data Mining (**WSDM 2022**), and the 29th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD 2023**).
- **Invited Reviewer** for ACM Transactions on Information Systems (**TOIS**), ACM Transactions on the Web (**TWEB**), and ACM International World Wide Web Conference 2022 (**WWW 2022**)
- Illinois Distinguished Fellowship, UIUC, U.S. 2023
- UT Austin Engineering Fellowship, UT Austin, U.S. 2023
- National Scholarship, Ministry of Education of China, China (for top 2% students) 2022
- First Class Academic Scholarship, USTC, China 2020 & 2021 & 2022
- Outstanding Student Scholarship, USTC, China 2017 & 2018 & 2019

Teaching & Service

- **Teaching Assistant** of two courses ("Fundamentals of Operation Research" and "Function of Complex Variable")
- **Administrator** of eleven deep-learning workstations (70 GPUs in total) of LDS lab for two years

Selected Courses

- **Mathematics:** Function of Complex Variable B (93/100), Fundamentals of Operation Research (96/100), System Identification (97/100), Combination Mathematics (91/100)
- **CS**: Computer Vision (95/100), Introduction to Robotics (93/100), Fundamentals of Computer Control (95/100), Introduction to Artificial Intelligence (93/100), Fundamentals of Electronic System Design (90/100), Principles and Systems of Microcomputers A (90/100), Fundamentals of Data Science (91/100)

Skills

Programming Languages: Python, C, C++, Matlab (ranked by proficiency)
Tools and Frameworks: PyTorch, Tensorflow, MySQL, Git, LaTeX, Docker, Hadoop
English: TOEFL: 108 (R: 28; L: 29; S: 26; W: 25); GRE: 321+3.5 (V: 153; Q:168; AW: 3.5)