

# SHIJUN LI

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## EDUCATION

**University of Science and Technology of China**, Hefei, China 09/2016 – 06/2020  
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 – 06/2023 (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, "A Fully-observed Dataset and Insights for Evaluating Conversational Recommender Systems", (\* **Equal contribution**), in Proceedings of the 31st ACM International Conference on Information and Knowledge Management (**CIKM 2022**, Full), [pdf] [codes] [data]
- 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]
- 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**), [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 can help 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 from the social video-sharing mobile App, Kuaishou, 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 Reinforcement Learning in Real-World Recommendation 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 of short videos on Kuaishou App
  - Train the model in an offline RL manner by building and interacting with a user simulator
  - Implement the RL model for the re-ranking task in real-world recommendation application, achieving significant improvement on 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

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### Kuaishou Inc.

Beijing, China

Research Intern, Advisor: Prof. Xiangnan He, Dr. Yuan Zhang

03/2020 – Present

- Study the cold-start setting and evaluation of conversational recommendation, constructing two valuable datasets and finishing 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. Harley Joel.B

07/2019 – 09/2019

- Study the growth and boundaries of grains in microstructure in 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 of these pictures

## PROFESSIONAL SERVICES & AWARDS

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- **PC Member** for The 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD 2022**) and The 15th International Conference on Web Search and Data Mining (**WSDM 2022**)
- **Invited Reviewer** for ACM Transactions on Information Systems (**TOIS**) and ACM International World Wide Web Conference (**WWW 2022**)
- First Class Academic Scholarship, USTC, China 2020 & 2021
- Outstanding Student Scholarship, USTC, China 2017 & 2018 & 2019

## TEACHING & SERVICE

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- **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

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- **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

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**Programming Languages:** Python, C, C++, Matlab (ranked by proficiency)

**Tools and Frameworks:** PyTorch, Tensorflow, MySQL, Git, LaTeX, Docker, Hadoop

**English:** TOFEL: 108 (R: 28; L: 29; S: 26; W: 25); GRE: 321+3.5 (V: 153; Q:168; AW: 3.5)