

# YANG YU

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## EDUCATION

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**University of Science and Technology of China** Sept. 2021 – Jun. 2024 (expected)

- *Master of Science* in Computer Science. Advisor: Prof. [Qi Liu](#).
- Research Interest: Recommender System, Natural Language Processing, Federated Learning.
- GPA: 4.06 / 4.3.

**University of Science and Technology of China** Sept. 2017 – Jun. 2021

- *Bachelor of Engineering* in Computer Science.
- GPA: 3.97 / 4.3, Rank: 3 / 253.

## RESEARCH EXPERIENCE

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**Graduate Research Assistant**, University of Science and Technology of China Sept. 2021 – Present

- Anhui Province Key Laboratory of Big Data Analysis and Application ([BDAA](#)). Advisor: Prof. [Qi Liu](#).
- Working on recommender systems, federated learning, and natural language processing.
- Designed an effective clustering-based untargeted attack method against federated recommendation systems and a general uniformity-based defense mechanism (AAAI'23).

**Research Intern**, OPPO Research Institute Feb. 2023 – Present

- Working on empowering various user-oriented services (e.g., user profiling, personalized recommendation) by pre-training the user model with users' app-related behaviors.
- Designed a new user model pre-training method (the corresponding work is under review).

**Research Intern**, Microsoft Research Asia Sept. 2020 – May. 2021

- Social Computing Group. Mentor: Dr. [Fangzhao Wu](#) and Dr. [Xing Xie](#).
- Mainly worked on news understanding and recommendation.
- Developed multilingual news recommendation models for [MSN](#) online services.
- Designed a self-supervised domain-specific post-training method and a two-stage multi-teacher knowledge distillation framework for effective and efficient PLM-based news recommendation (EMNLP'22).

**Joint Research Program**, Huawei Mar. 2020 – Dec. 2020

- Worked on the compression of generative models for edge devices.
- Implemented several methods for image super-resolution and model compression (e.g., pruning, quantization, knowledge distillation).

## PUBLICATIONS

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1. [Yang Yu](#), Qi Liu, Likang Wu, Runlong Yu, Sanshi Lei Yu, Zaixi Zhang. Untargeted Attack against Federated Recommendation Systems via Poisonous Item Embeddings and the Defense. In *Proceedings of the 37th AAAI Conference on Artificial Intelligence (AAAI)*, 2023. [[Paper](#)] [[Code](#)] [[Video](#)]
2. [Yang Yu](#), Fangzhao Wu, Chuhan Wu, Jingwei Yi, Qi Liu. Tiny-NewsRec: Effective and Efficient PLM-based News Recommendation. In *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2022. [[Paper](#)] [[Code](#)]
3. Tao Qi, Fangzhao Wu, Chuhan Wu, Peiru Yang, [Yang Yu](#), Xing Xie, Yongfeng Huang. HieRec: Hierarchical User Interest Modeling for Personalized News Recommendation. In *Proceedings of the 59th Annual Meeting of the Association for Computational Linguistics (ACL)*, 2021. [[Paper](#)]
4. Chuhan Wu, Fangzhao Wu, [Yang Yu](#), Tao Qi, Yongfeng Huang, Qi Liu. NewsBERT: Distilling Pre-trained Language Model for Intelligent News Application. In *Findings of the Association for Computational Linguistics: EMNLP*, 2021. [[Paper](#)]

- Jingwei Yi, Fangzhao Wu, Bin Zhu, **Yang Yu**, Chao Zhang, Guangzhong Sun, Xing Xie. UA-FedRec: Untargeted Attack on Federated News Recommendation. *arXiv preprint*, 2022. [[Paper](#)]
- Chuhan Wu, Fangzhao Wu, **Yang Yu**, Tao Qi, Yongfeng Huang, Xing Xie. UserBERT: Contrastive User Model Pre-training. *arXiv preprint*, 2021. [[Paper](#)]

## PROJECTS

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### Intelligent Educational Knowledge Graph (LUNA)

May, 2021 – Feb. 2023

- Aiming to gather, standardize, and analyze massive multi-modal educational resources on the Internet and provide various intelligent education services for students and teachers.
- In charge of the educational resources search system and the test paper analysis service.
- Empowered the recall and ranking pipeline of the search system with pre-trained language models.

### Federated Recommendation

Apr. 2022 – Aug. 2022

- Implemented various attack methods and defense mechanisms for federated recommendation systems in a unified framework.

### News Recommendation

Jul. 2021

- Implemented several deep learning-based news recommendation methods in PyTorch, with the support of multi-GPU training and evaluation.

## SELECTED HONORS AND AWARDS

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<b>Huawei Scholarship</b> (Top 2%), University of Science and Technology of China	2019, 2022
<b>First Prize Academic Scholarship</b> , University of Science and Technology of China	2021, 2022
<b>“Stars of Tomorrow” Internship Award of Excellence</b> , Microsoft Research Asia	2021
<b>National Scholarship</b> (Top 0.2% nationwide), Ministry of Education of the People’s Republic of China	2020

## SKILLS

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**Programming Languages:** Python, Shell, Markdown, SQL, C, HTML, JavaScript

**Frameworks:** PyTorch, Flask, Django, Vue.js

**Tools:** L<sup>A</sup>T<sub>E</sub>X, Git, Docker

**Languages:** Mandarin (native), English (TOEFL: 105)