YUTING NING

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EDUCATION

University of Science and Technology of China June, 2024 (expected)
M.S. in Computer Science and Technology, Advisor: Enhong Chen
Research Interest: Data Mining, Natural Language Processing, Intelligent Education
GPA: 4.11 / 4.3

University of Science and Technology of China June, 2021
B.S. in Computer Science and Technology
GPA: 3.93 / 4.3 (Rank: 5/253)

RESEARCH EXPERIENCE

Visiting Student, University of Southern California Jul. 2023 - Present
INK Lab, Advisor: Xiang Ren Los Angeles, CA

- **Project:** Long-tail Knowledge Generation
  - Proposed a logic-induced knowledge search framework LINK for systematically generating long-tail knowledge statements, which are challenging for LLMs.
  - Constructed a dataset LINT with 40K knowledge statements.
  - Evaluated the generation ability and reasoning ability on long-tail knowledge statements of LLMs.
  - **Publication:** One paper is submitted.

Graduate Research Assistant, University of Science and Technology of China Sep. 2021 - Present
BDAA-BASE Group, Advisor: Enhong Chen Hefei, China

- **Project:** Natural Language Processing in Intelligent Education
  - Tackling challenges related to the understanding of educational resources.
  - Designed a contrastive pre-training method for holistically understanding mathematical questions.
  - **Publication:** One paper published at AAAI'23.
- **Project:** Evaluation of Large Language Models
  - Proposed an adaptive testing framework for LLM evaluation.
  - Conducted fine-grained diagnostics of LLMs from three aspects of human-level abilities.
  - **Publication:** One paper is submitted.

Research Intern, Microsoft Research Asia Jul. 2020 - Dec. 2020
Social Computing Group, Mentor: Fangzhao Wu and Xing Xie Beijing, China

- Mainly worked on news understanding and recommendation.
- Implemented many advanced news recommendation methods.

Undergraduate Research Assistant, University of Science and Technology of China Mar. 2020 - Jul. 2020
Advisor: Qi Liu Hefei, China

- **Project:** Federated User Modeling
  - Worked on a hierarchical personalized federated user modeling framework.
  - **Publication:** One paper published at WWW'21 and one paper published at TOIS.

PUBLICATIONS & PREPRINTS

1. **Yuting Ning**, Zhenya Huang, Enhong Chen, Shiwei Tong, Zheng Gong, Shijin Wang. Towards a Holistic Understanding of Mathematical Questions with Contrastive Pre-training. *The 37th AAAI Conference on Artificial Intelligence (AAAI)*, 2023. [PDF] [Code]

2. **Yuting Ning**, Jiayu Liu, Longhu Qin, Tong Xiao, Shangzi Xue, Zhenya Huang, Qi Liu, Enhong Chen, Jinze Wu. A Novel Approach for Auto-Formulation of Optimization Problems. *arXiv preprint*, 2023. [PDF] [Code]

3. Yan Zhuang, Qi Liu, **Yuting Ning**, Weizhe Huang, Rui Lv, Zhenya Huang, Guanhao Zhao, Zheng Zhang, Qingyang Mao, Shijin Wang, Enhong Chen. Efficiently Measuring the Cognitive Ability of LLMs: An Adaptive Testing Perspective. *Submitted*, 2023. [PDF]

4. Qi Liu, Jinze Wu, Hao Wang, Zhenya Huang, **Yuting Ning**, Ming Chen, Enhong Chen. Federated User Modeling from Hierarchical Information. *ACM Transactions on Information Systems (TOIS)*, 2023. [PDF]

5. Ye Liu, Han Wu, Zhenya Huang, Hao Wang, **Yuting Ning**, Jianhui Ma, Qi Liu, Enhong Chen. TechPat: Technical Phrase Extraction for Patent Mining. *ACM Transactions on Knowledge Discovery from Data (TKDE)*, 2023. [PDF]

6. Jinze Wu, Qi Liu, Zhenya Huang, **Yuting Ning**, Hao Wang, Enhong Chen, Jinfeng Yi and Bowen Zhou. Hierarchical Personalized Federated Learning for User Modeling. *The 30th International World Wide Web Conference (WWW)*, 2021. [PDF]

7. **Yuting Ning**, Ye Liu, Zhenya Huang, Haoyang Bi, Qi Liu, Enhong Chen, Dan Zhang. Stable and Diverse: A Unified Approach for Computerized Adaptive Testing. *2021 IEEE 7th International Conference on Cloud Computing and Intelligent Systems (CCIS)*, 2021. [PDF]

COMPETITION EXPERIENCE

- **3rd place in NeurIPS Competition**: Natural Language for Optimization [Web] 2022
- **Silver Prize (top 5%) in Kaggle Competition**: Feedback Prize - Evaluating Student Writing [Web] 2022
- **2rd place in MOOCCube Competition**: Predicting Student Performances 2021

PROJECTS

EduNLP [Code] [Doc] Sep. 2021 - Present

- Leading the project and aiming at an advanced and unified NLP library for multi-model educational resources.
- Implemented several educational question representation models and pre-training methods.
- Empowered downstream tasks in intelligent education with pre-trained language models.
- Built the ModelHub to effectively manage the pre-trained models.

Intelligent Education Knowledge Graph (LUNA) [Web] Feb. 2021 - Jul. 2023

- Aiming to analyze massive educational resources deeply and provide intelligent education services.
- Developed the question search service with elasticsearch and vector-based search methods.
- Boosted question-based services with pre-trained language models.

News Recommendation [Code] Jun. 2020 - Jul. 2020

- Implemented several news classification and recommendation methods in both PyTorch and Keras.

SELECTED HONORS & AWARDS

First Prize Academic Scholarship, University of Science and Technology of China 2021, 2022
Top 5% Outstanding Graduates of USTC, University of Science and Technology of China 2021
Outstanding Graduates of Anhui Province, Education Department of Anhui Province 2021
Baosteel Outstanding Student Scholarship (1/1800+ in USTC), Baosteel Education Fund 2020
National Scholarship, Ministry of Education of the People's Republic of China 2019

SKILLS

Programming Languages Python, C, SQL, HTML
Frameworks Pytorch, Keras, Flask
Tools LaTeX, Git
Languages Mandarin (native), English (TOEFL: 102)