ZIRUI CHENG

CURRICULUM VITAE

Department of Computer Science and Technology
Tsinghua University
Beijing, China

Email: chengzr19@mails.tsinghua.edu.cn
Website: https://chengzr01.github.io
Mobile: (+86) 15751375486

EDUCATION

Tsinghua University **2024 (Expected)**
B.E. in Computer Science and Technology *Beijing, China*
B.A. in Economics and Finance
GPA: 3.87/4.00

INTERESTS

Human-Computer Interaction, Machine Learning, Data Science, Natural Language Processing.

PUBLICATIONS

Peer-reviewed papers

[1] **Modeling the Trade-off of Privacy Preservation and Activity Recognition on Low-Resolution Images**
Yuntao Wang*, **Zirui Cheng***, Xin Yi, Yan Kong, Xueyang Wang, Xuhai Xu, Yukang Yan, Chun Yu, Shwetak Patel, Yuanchun Shi. (* indicates co-first author)
CHI 2023 – *2023 ACM CHI Conference on Human Factors in Computing Systems*.

Preprints

[1] **TeacherLM: Teaching to Fish Rather Than Giving the Fish, Language Modeling Likewise**
Nan He*, Hanyu Lai*, Chenyang Zhao*, **Zirui Cheng**, Junting Pan, Ruoyu Qin, Ruofan Lu, Rui Lu, Yunchen Zhang, Gangming Zhao, Zhaohui Hou, Zhiyuan Huang, Shaoqing Lu, Ding Liang, Mingjie Zhan. (* indicates co-first author)
arXiv:2310.19019, 2023.

EXPERIENCE

Carnegie Mellon University **2023**
Research Intern at Human-Computer Interaction Institute *Pittsburgh, PA, USA*
Advisor: Kenneth Holstein

- Conducted quantitative analysis for an interactive system enabling community-driven data curation for AI model evaluation in online communities.
- Implemented visualization techniques to analyze the datasets curated by community members in evaluating AI models.
- Conducted evaluation studies of different AI models for content moderation deployed in online communities with community-curated datasets.

University of California San Diego **2023**
Research Intern at Halıcıoğlu Data Science Institute *La Jolla, CA, USA*
Advisor: Haojian Jin

- Developed a human-AI system powered by large language models to facilitate knowledge assessment for teachers by generating a set of targeted multiple-choice questions.
- Proposed a design pattern to ensure the diversity while maintaining the accuracy in question generation systems powered by large language models.
- Conducted evaluation studies to investigate the effectiveness and efficiency of the proposed system in generating multiple-choice questions for assessing conceptual learning outcomes.

SenseTime Research **2022**
Research Intern at Natural Language Processing Group *Beijing, China*

- Proposed a large language model with capabilities of explaining the fundamentals, chain of thoughts, and common mistakes for most natural language processing samples.
- Validated the data enhancement capability of the prompts generated from the proposed model through instruction finetuning on various datasets.

Tsinghua University **2022**
Research Intern at Department of Computer Science and Technology *Beijing, China*
Advisor: Yuntao Wang

- Proposed a modeling framework for balancing the trade-off between privacy preservation and activity recognition in smart homes under different resolutions.
- Investigated people's privacy concerns towards different visual privacy features in smart homes through user studies.
- Investigated the effect of image resolution on both human and AI's capabilities on activity recognition task and privacy awareness through user studies and computer vision experiments.

HONORS

Research Excellence Scholarship, Tsinghua University, 2023
Social Service Excellence Scholarship, Tsinghua University, 2023 & 2022
Academic Performance Excellence Scholarship, Tsinghua University, 2021
Comprehensive Excellence Scholarship *(top 10% among all students)*, Tsinghua University, 2020
Freshmen Scholarship *(top 10% among all students)*, Tsinghua University, 2019

SKILLS

Technical Skills

Programming Languages: Python, C/C++, JavaScript/CSS/HTML, Java, R, Matlab, Verilog, VHDL.
Machine Learning: PyTorch, TensorFlow.
Web Framework: React, Vue, Django.

Language Skills

Chinese: native in Mandarin, fluent in Wu, Yue.
English: fluent, TOEFL 105.
German: CEFR A2 level.