ZIRUI CHENG

Department of Computer Science and Technology, Tsinghua University

📱 (86)15751375486 | ✉ chengzr19@mails.tsinghua.edu.cn | ⌂ chengzr01.github.io

Education

Department of Computer Science and Technology, Tsinghua University   *Beijing, China*

B.E. in Computer Science and Technology, B.E. in Economics and Finance   *Aug 2019 - Jun 2024 (Expected)*

GPA: 3.87/4.00

Courses: Software Engineering (A), Artifial Neural Networks (A), Fundamentals of Cybersecurity (A), Introduction to Database Management System (A), Object-Oriented Programming (A),Principles of Politics (A+), Introductory Psychology (A-).

Interest

Human-Computer Interaction, Software Engineering, Natural Languege Processing.

Publications

[1] **Zirui Cheng***, Yuntao Wang*, Xin Yi, Yan Kong, Xueyang Wang, Xuhai Xu, Yukang Yan, Chun Yu, Shwetak Patel, Yuanchun Shi.

Modeling the Trade-off of Privacy Preservation and Activity Recognition on Low-Resolution Images.

CHI 2023 — *2023 CHI Conference on Human Factors in Computing Systems.*

Research Experience

University of California San Diego   *La Jolla, California, USA*

Halcolu Data Science Institute, Advisor: Haojian Jin   *2023 Spring*

Propose an AI-infused system to generate multiple-choice questions for knowledge assessment to replace knowledge-based open-ended questions in the face of cheating risks brought by generative AI.

Introduce the Explore-Validate-Generate interaction pattern to leverage the knowledge embedded within large language models and breaks down a knowledge-based open-ended question into a series of multiple-choice questions.

Conduct user studies to investigate the feasibility of generative AI in educational tasks validate the effectiveness of generated questions in assessing students' conceptual learning outcomes.

SenseTime Technology   *Beijing, China*

Natural Language Processing Group   *2022 Fall*

Propose a large language model — TeacherLM-7.1B with capabilities of explaining the fundamentals, chain of thoughts, and common mistakes for most natural language processing (NLP) samples.

Validate the data enhancement capability of the prompts generated from TeacherLM-7.1B through instruction finetuning on various dataset.

Tsinghua University   *Beijing, China*

Department of Computer Science and Technology, Advisor: Yuntao Wang   *2022 Summer*

Propose a framework with ajustable parameters for modeling the trade-off of visual privacy preserving activity recognition under different resolutions using images and videos collected from multimodal applications.

Investigate the effect of the image resolution on both human and machine's performance on activity recognition task and visual privacy awareness through user studies and computer vision experiments.

Honors

2022	**Social Service Excellence Scholarship**, Tsinghua University	*Beijing, China*
2021	**Academic Performance Excellence Scholarship**, Tsinghua University	*Beijing, China*
2020	**Overall Excellence Scholarship (top 10%)**, Tsinghua University	*Beijing, China*
2019	**Freshmen Scholarship (top 10%)**, Tsinghua University	*Beijing, China*

Skills

Programming Languages	Python, C/C++, JavaScript, Java, R, Matlab, Verilog, VHDL.
Machine Learning	PyTorch, TensorFlow.
Software Engineering	React, Vue, Django.
Languages	Chinese Mandarin, English (TOEFL 103), German (CEFR A2).