

Chaoran CHEN

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EDUCATION BACKGROUND

University of Notre Dame, South Bend, U.S.

08/2022 – present

College of Engineering

Ph.D. in Computer Science and Engineering | Overall GPA: **3.87/4**

Carnegie Mellon University, Pittsburgh, U.S.

08/2021 – 08/2022

Human-Computer Interaction Institute, School of Computer Science

M.S. in Educational Technology and Applied Learning Sciences | Overall GPA: **3.94/4**

Tongji University, Shanghai, China

09/2015 – 07/2020

College of Design and Innovation

B.E. in Industrial Design | Overall GPA: **4.42/5**

PUBLICATIONS

- **Chaoran Chen**, Daodao Zhou, Yanfang Ye, Toby Jia-jun Li, Yaxing Yao. *CLEAR: Towards Contextual LLM-Empowered Privacy Policy Analysis and Risk Generation for Large Language Model Applications*. Accepted by the ACM Conference on Intelligent User Interfaces (IUI '25), March 24–27, 2025, Cagliari, Italy. DOI: <https://doi.org/10.48550/arXiv.2410.13387>
- Shang Ma*, **Chaoran Chen***, Shao Yang, Shifu Hou, Toby Jia-Jun Li, Xusheng Xiao, Tao Xie, Yanfang Ye. *Careful About What App Promotion Ads Recommend! Detecting and Explaining Malware Promotion via App Promotion Graph* Accepted by Network and Distributed System Security (NDSS) Symposium 2025 (NDSS '25), February 23–28, 2025, San Diego, USA. DOI: <https://doi.org/10.48550/arXiv.2410.07588>
- Ouyang, Zhongyu, Chunhui Zhang, Shifu Hou, Shang Ma, **Chaoran Chen**, Toby Li, Xusheng Xiao, Chuxu Zhang, and Yanfang Ye. *Symbolic Prompt Tuning Completes the App Promotion Graph Conditionally* In Joint European Conference on Machine Learning and Knowledge Discovery in Databases (pp. 183-198) (ECML PKDD 2024). Cham: Springer Nature Switzerland. DOI: https://doi.org/10.1007/978-3-031-70381-2_12
- **Chaoran Chen**, Weijun Li, Wenxin Song, Yaxing Yao, Yanfang Ye, Toby Jia-jun Li. "An Empathy-Based Sandbox Approach to Bridge the Privacy Gap among Attitudes, Goals, Knowledge, and Behaviors." Accepted by CHI Conference on Human Factors in Computing Systems (CHI '24), May 11–16, 2024, Hawaii, USA. ACM, New York, NY, USA. DOI: <https://doi.org/10.48550/arXiv.2309.14510>
- Chatterjee Ishan, Tadeusz Pforte, Aspen Tng, Farshid Salemi Parizi, **Chaoran Chen**, and Shwetak Patel. 2022. *ARDW: An Augmented Reality Workbench for Printed Circuit Board Debugging*. In Proceedings of the 35th Annual ACM Symposium on User Interface Software and Technology (UIST '22), October 29–November 2, 2022, Bend, OR, USA, 16 pages. DOI: <https://doi.org/10.1145/3526113.3545684>
- Shengchen Zhang, Zixuan Wang, **Chaoran Chen**, Yi Dai, Lyumanshan Ye, and Xiaohua Sun. 2021. *Patterns for Representing Knowledge Graphs to Communicate Situational Knowledge of Service Robots*. In CHI Conference on Human Factors in Computing Systems (CHI '21), May 8–13, 2021, Yokohama, Japan. ACM, New York, NY, USA, 12 pages. DOI: <https://doi.org/10.1145/3411764.3445767>
- Nan Cao, Xin Yan, Yang Shi, **Chaoran Chen**. 2019. *AI-Sketcher: A Deep Generative Model for Producing High-Quality Sketches*. Proceedings of the AAAI Conference on Artificial Intelligence. (AAAI 2019) 33, 01 (Jul. 2019), 2564-2571. DOI: <https://doi.org/10.1609/aaai.v33i01.33012564>

INTERNSHIP EXPERIENCES

Research Intern, Max Planck Institute for Security and Privacy

10/2024 – 12/2024

- Conducted a comprehensive literature review on Large Language Models (LLMs) and usable privacy to inform the research framework.
- Designed and developed a qualitative user study for an experimental study of users' privacy concerns and reaction strategy when using LLMs.

Research Intern, Huawei

08/2020 – 06/2021

- Designed the interaction of a digital pen for a foldable PC and applied for a US patent.
- Conducted 2 phases of human factor experiments to study the range of deviation when humans use a phone to point to several IoT devices
- Used motion capture devices to get 3D position data of the mobile phone during distal pointing moments and analyzed the data in Python to find the key influencing factors of pointing deviation
- Used IMU sensors in a smartwatch and motion capture devices to identify users' body movements during exercise training

RESEARCH EXPERIENCES

Design an On-Glasses video Annotation Tool, Shanghai Jiao Tong University

Research Assistant | Advisor: Prof. Danni Chang, School of Design

08/2022 – 10/2022

- Lead the research project in the aspect of idea generation, prototype development, and user study
- In charge of the design and development of the tool that facilitates vloggers by double-tapping the glasses arms to add real-time tags to the video footage
- Conducted a user study to compare this tool with existing video editing tools on mobile phones

- Demo “TapTag” won the *Best Implementation Award in MobileHCI 2022*

Design a Projected AR-based PCB Debugging System, Tsinghua University & University of Washington

Research Assistant | Advisor: Prof. Yuntao Wang, Department of Computer Science and Technology

07/2021 – 04/2022

- Conducted a literature review on techniques of PCB debugging and computer vision
- In charge of the algorithm design of a fine-tuned SIFT to track a PCB board and a probe tip
- Developed an integrated projector-camera system to project debugging information on the PCB board, reducing cross-device switching, accelerating flying probe testing, and supporting remote debugging.
- Paper “ARDW: An Augmented Reality Workbench for Printed Circuit Board Debugging” accepted by **UIST 2022**

Research on A Pattern Library for Presenting Situational Knowledge of Service Robots, Tongji University

Research Assistant | Advisor: Prof. Xiaohua Sun, College of Design and Innovation

07/2020 – 09/2020

- Conducted a literature review on techniques of knowledge graph representation
- In charge of paper writing of introduction and related work sections
- Organized several discussions on paper writing, literature review, and user study design
- Paper “Patterns for Representing Knowledge Graphs to Communicate Situational Knowledge of Service Robots” accepted by **CHI 2021**

Design a Deep Learning-based System for Generating Emotional Expressions in Storyboards, Tongji University

Research Assistant | Advisor: Prof. Yang Shi, College of Design and Innovation

05/2018 – 09/2018

- Conducted a literature review on prevalent storyboard products and AI techniques for generating expression
- In charge of the algorithm design of a sequence-to-sequence VAE model and took part in the preparation of the high-quality dataset of expressions
- Moderated several usability testing sessions and analyzed the user feedback
- Developed *EmoG* to support generating emotional expressions in storyboards, helping designers who are less skilled at drawing to depict emotional expressions in an aesthetically pleasing and expressive manner
- Paper “AI-Sketcher: A Deep Generative Model for Producing High-Quality Sketches” accepted by **AAAI 2019**

SKILLS

Programming Skills: Experienced in Python, HTML, CSS, JavaScript (D3.js), React.js, Next.js, Flask, and SQLite; Familiar with Java (Android), Unity (C#), C++, and MATLAB

Software Skills: Tableau, Figma, Sketch, Adobe Suite

UX Research: User Interview, User Study Design, Usability Test, Statistical Test

UX Design: Sketching, Personas, Storyboarding, Wireframing, Prototyping

AWARDS AND HONORS

Third prize of Tech Ethics Hackathon hosted by Notre Dame-IBM Technology Ethics Lab	2024
Best Implementation Award, MobileHCI 2022	2022
Merit Scholarship (\$7,000), Carnegie Mellon University	2021