Xiaohang Tang

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Education

University of Liverpool, Liverpool, UK 09/2021 – 07/2023

B.Sc. in Computer Science, GPA: 4.0/4.0 (Y3) First Class (Honors) Expected

- Relevant Courses: Software Engineering, Complexity Of Algorithms, Database Development, Decision Computational Language, Advanced Artificial Intelligence

Xi'an Jiaotong-Liverpool University, Suzhou, China 08/2019 – 07/2021

B.Sc. in Information and Computing Science, GPA: 3.87/4.0 (Top 10% in Y1, Top 10% in Y2)

- Relevant Courses: Algorithmic Foundations and Problem Solving (90%, Top 2/513), Artificial Intelligence, Data Structures, Computer Systems

Research Experience

University of Notre Dame 05/2022 – Present

HCI + NLP | Research Intern | SaNDwich Lab

Advisors: Toby Jia-Jun Li & Elena Glassman (co-advised from Harvard University)

- Proposed an interactive human-AI collaboration system for qualitative coding according to the formative study.
- Evaluated our proposed system for effectiveness in code recommendations, usefulness in helping human users discover data characteristics and new theories, and fitness to accommodate the vague, uncertain, and iterative nature of qualitative coding .
- Helped design and develop algorithms and the system. Participated in designing and conducting the user study and the offline system experiment. Contributed to qualitative and quantitative data analyzes of the interview transcripts and the study results. Also helped write the paper.

University of Liverpool 10/2021 – Present

NLP | Research Assistant | NLP@Liv

Advisor: Danushka Bollegala

- Researched a template-based method to enhance dynamic word embedding that learns semantic change across time.
- Proposed three unsupervised tuple selection methods with two template generation methods to learn semantic change over time. Evaluated the proposed method by time-adapting a pre-trained Masked Language Model (MLM) with our approach. The proposed approach beat the SoTA approach.
- Participated in proposing the method and designing experiments. Programmed codes and executed experiments. Wrote the paper with coauthors.

Xi'an Jiaotong-Liverpool University 10/2020 – 08/2021

HCI + VR + Cybersickness | Research Assistant | X-CHI Lab

Advisors: Hai-Ning Liang & Diego Monteiro

- Researched the correlation between cybersickness and trajectory compression rate in Virtual Reality Games.
- Demonstrated experimentally that a machine learning approach can be used to identify changes in cybersickness using this measurement.
- Contributed to the experiment design, analyzing trajectory and user data. Programmed VR softwares for experiments in Unity3D and conducted experiments. Participated in writing the paper and the patent.

HCI + VR + Accessibility + Gamification | Research Assistant | X-CHI Lab

Advisor: Hai-Ning Liang

- Researched facilitating empathy in people with non-myopia for those who suffer from myopia by two VR games.

- Investigated users experience and empathetic feelings of the two VR games with semi-structured interviews and questionnaires.
- Programmed experiment software (games) in Unity3D. Contributed to the experiments and games design, user study data analysis, and paper writing.

Remote Research Collaboration

Massachusetts Institute of Technology 06/2021 – 08/2021

NLP + QA | Research Assistant | Computer Science & Artificial Intelligence Lab

Advisor: Hongyin Luo

- Researched a QA model to answer reading comprehension questions about written passages.
- Trained and evaluated the model in SQuAD dataset. Achieved results with EM score of 68.45% and F1 score of 81.35%.

Selected Publications: My Google Scholar

Full Paper

[C.3] Simret Araya, Zheng Zhang, **Xiaohang Tang**, Yihao Meng, Elena Glassman, Toby Jia-Jun Li, about human-AI collaboration system, in **CHI'23** [In Submission]

[C.2] **Xiaohang Tang**, Yi Zhou, Danushka Bollegala, about learning dynamic word embeddings, in **EACL'23** [In Submission]

[C.1] Diego Monteiro, Hai-Ning Liang, **Xiaohang Tang**, Pourang Irani, "Using Trajectory Compression Rate to Predict Changes in Cybersickness in Virtual Reality Games," in **ISMAR'21**

[J.1] Jingjing Zhang, Mengjie Huang, Rui Yang, Yiqi Wang, **Xiaohang Tang**, Ji Han, Haining Liang, about effects of hand design in VR, in **Artificial Intelligence for Engineering Design, Analysis and Manufacturing (Cambridge University Press)** [In Submission]

Extended Abstract

[EA.3] Xiang Li, **Xiaohang Tang**, Yuzheng Chen, about augmented gestures and video players, in **ISS'22** [In Submission]

[EA.2] Xiang Li, Yuzheng Chen, **Xiaohang Tang**, about mid-air gestures and real-time message notifications, in **ISS'22** [In Submission]

[EA.1] Xiang Li, **Xiaohang Tang**, Xin Tong, Rakesh Patibanda, Florian 'Floyd' Mueller, Hai-Ning Liang, "Myopic Bike and Say Hi: Games for Empathizing with The Myopic," in **CHI PLAY'21** [SGDC Finalist]

Patent

[PA.1] Diego Monteiro, Hai-Ning Liang, **Xiaohang Tang**, "A method, apparatus and storage medium for detecting user's cybersickness level in virtual environment," **[CN113283612A]**

Academic Service

Reviewer: **CHI Late-Breaking Work** (2022)

Student Volunteer: **ACM UbiComp** (2022), **ACM DIS** (2022), **IEEE AIVR** (2020)

Selected Awards

ACM SIGCHI Gary Marsden Travel Award '22 ($3500)

University Academic Achievement Award '20 at XJTLU ($750)

Skills

Programming Languages: Python, C/C++, C#, Java, R

Tools and Frameworks: LaTeX, PyTorch, Unity3D