Changyang He

(+86)18701797095
cheai@cse.ust.hk

EDUCATION

Hong Kong University of Science and Technology   Hong Kong SAR, China
Ph.D. in Computer Science and Engineering, Advisor: Bo Li   Sept. 2020–Current

Fudan University   Shanghai, China
B.S. in Advanced class of Computer Science, Advisor: Tun Lu   Sept. 2016–June 2020

  − GPA: 3.67/4.0   Ranking: top 10%

RESEARCH INTERESTS

- Human-computer interaction, social computing, computer-supported cooperative work, health informatics, video and live streaming

VISITING AND INTERNSHIP

University of California, Irvine   Irvine, USA
Research Assistant, Advisor: Kai Zheng, Yunan Chen   July 2019 –Aug. 2019

Dartmouth College   Hanover, USA
Research Assistant, Advisor: Xingdong Yang   Jan. 2019 –Mar. 2019

SCHOLARSHIPS AND AWARDS

- Student Paper Competition Finalist (AMIA 2020)   2020
- Outstanding Graduate of Shanghai (5%)   2020
- Honor Graduate of Advanced Class (5%, 5000 CNY)   2020
- Outstanding Undergraduate of Fudan University (10%)   2017–2018
- Fudan Oversea Visiting Student Stipend (15000 CNY)   2019
- First Grade Scholarship of Fudan University (5%)   2017
- Second Grade Scholarship of Fudan University (10%)   2019
- Third Grade Scholarship of Fudan University (20%)   2018

PUBLICATIONS

* indicates an equal contribution.

1. Lu He[*], **Changyang He**[*], Tera L Reynolds, Qiushi Bai, Yicong Huang, Chen Li, Kai Zheng, Yunan Chen. "Why do people oppose mask wearing? A comprehensive analysis of US tweets during the COVID-19 Pandemic." In Journal of the American Medical Informatics Association 2021. (forthcoming)

2. Yuhu Chang[*], **Changyang He**[*], Yingying Zhao, Tun Lu, Ning Gu. 2021. "A High-Frame-Rate Eye-Tracking Framework For Mobile Devices." In Proceedings of the 2021 *IEEE International Conference on Acoustics, Speech, and Signal Processing.* (**ICASSP '2021**, forthcoming)

3. Lu He, **Changyang He**, Yue Wang, Zhaoxian Hu, Kai Zheng, Yunan Chen. 2020. "What Do Patients Care About? Mining Fine-grained Patient Concerns from Online Physician Reviews Through Computer-Assisted Multi-level Qualitative Analysis." In Proceedings of the 2020 *AMIA Annual Symposium.* (**AMIA '2020**) **Student Paper Competition Finalist**

Manuscript

1. **Changyang He**, Lu He, Tun Lu, Bo Li. "Beyond Entertainment: Unpacking Danmaku and Comments' Role of Information Sharing and Sentiment Expression in Online Crisis Videos." *Submitted to CSCW, Jan. 2021*

2. **Changyang He**, Huan Liu, Lu He, Tun Lu, Bo Li. "More Collaboration, Less Seriousness: Investigating New Strategies for Promoting Youth Engagement in Government-Generated Videos during the COVID-19 Pandemic in China." *Submitted to Computers in Human Behavior, Jan. 2021*

Talks and Presentations

- "What Do Patients Care About? Mining Fine-grained Patient Concerns from Online Physician Reviews Through Computer-Assisted Multi-level Qualitative Analysis."

  AMIA Annual Symposium 2020, Virtual Event. (Recorded, Co-present with Lu He)   Nov. 2020

Teaching

- COMP3511 (Operating Systems)   2020

Selected Research Projects

Public Attitudes, Concerns and External Information Analysis in Mask-related Tweets
Remote Undergraduate Research, Advisor: Yunan Chen, Kai Zheng   June 2020 –Sept. 2020

- Analyze a large-scale Twitter dataset to study the temporal trend of the public's attitudes towards mask-wearing during COVID-19
- Qualitatively analyze the possible concerns for opposing the use of masks
- Explore the types of external information sources shared on social media in mask-related discussions
- Paper under major revision of JAMIA

Unpacking Patterns of Crisis Communication through Video Commenting
Undergrad Graduation Thesis, Advisor: Tun Lu   Mar. 2020 –June 2020

- Investigate how users utilize the two different video commenting channels (i.e., danmaku and comments) to express their emotions and share information during the COVID-19 crisis
- Analyze the prevalence, emotion categories and information themes, and unique patterns of emotional expression and information sharing in danmakus and comments based on machine learning models
- Discuss design implications for video platforms in facilitating crisis communication

Mining Fine-grained Patient Concerns from Online Physician Reviews
Undergraduate Research, Advisor: Yunan Chen, Yue Wang   July 2019 –March 2020

- Design a novel natural language processing pipeline incorporating qualitative coding and supervised and unsupervised machine learning method to process online physician reviews
- Identify not only coarse-grained topics (e.g., relationship, clinic management), but also fine-grained details such as diagnosis, timing and access, and financial concerns
- Discuss how healthcare providers could improve their ratings based on consumer feedback
- Paper accepted by AMIA

GazeHFR: A High-frame-rate Eye-tracking Framework Specialized for Mobile Devices

Undergraduate Research, Advisor: Tun Lu   May. 2019 –Aug. 2020

- Tackle the eye tracking efficiency challenge and introduce a biologic-inspired eye-tracking model specialized for mobile devices, offering both high accuracy and efficiency
- Classify the eye movement into two distinct phases, i.e., saccade and smooth pursuit, and leverage inter-frame motion information combined with lightweight learning models tailored to each movement phase to deliver high-efficient eye tracking
- Achieve approximately 7x speedup and 15% accuracy improvement on mobile devices
- Paper accepted by ICASSP

EXTRACURRICULAR ACTIVITIES

- Minister of Academic Affairs, Student Union of the school of Computer Science, Fudan University   2017–2018
- President of Table Tennis Club, Zhangjiang Campus, Fudan University   2017–2018
- Teaching volunteer in Hainan Province   2018

SKILLS

- **Program Languages:** Python, R, JavaScript, Java, C/C++, SQL, LaTeX

- **Framework:** Pytorch, Tensorflow, Vue

LANGUAGES

- **Mandarin:** Native
- **English:** Fluent
  - **TOEFL-iBT:** 102
- **German:** Novice