

YI-CHIEH LEE

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EDUCATION

Ph.D. of Computer Science, University of Illinois Urbana-Champaign (UIUC) 2015 - Expected 2020

- Research: *Designing Conversational Agents to Promote Self-disclosure and Behavior Change*

- Committee: Prof. Yun Huang (Advisor, UIUC), Prof. Karrie Karahalios (UIUC), Prof. Hari Sundaram (UIUC), and Dr. Naomi Yamashita (NTT research)

Master of Multimedia Engineering, National Chiao-Tung University 2011 - 2014

- Research: *Applying EEG Analysis to Human-Computer Interaction Design - Visual Attention Detection and Auditory Perception Usability Testing*

- Committee: Prof. Wen-Chieh Lin (NCTU), Prof. Li-Wei Ko (NCTU), Prof. Sheng-Fu Liang (NCKU), and Prof. Hao-Chuan Wang (UC Davis)

Bachelor of Computer Science, National Tsing Hua University 2008 - 2011

- **Research Interests:** Human-Computer Interaction (HCI), Social Computing, Conversational AI, Human-Centered AI, Healthcare system

RESEARCH & WORK EXPERIENCE

Research Assistant - Computer Science, UIUC Aug 2015 - Present

Topic: Human-Centered AI technologies, Social Computing

- Led 3 research projects and published the findings in HCI top conferences (e.g., CHI and CSCW)
- **Project 1:** Designed technological support for mental healthcare and proposed a new concept of chatbot-mediated communication. This research investigated multiple facets of Human-AI collaboration.
- **Project 2:** Investigated the design of monetary incentive on live-streaming platforms and explored its effect on streamer-viewer interaction and content creation
- **Project 3:** Designed a new donation system to crowdfunding websites based on deferred acceptance algorithm - the system helps donors intelligently spread out donations based on their preferences and increase the success rate of crowdfunding campaigns

Intern - NTT Research (Nippon Telegraph and Telephone) May 2019 - Feb 2020

Topic: Computer-mediated communication, Supervisor: Dr. Naomi Yamashita

- Collaborated with NTT researchers and obtained funds from them to sponsor my Ph.D. thesis research
- Worked with psychotherapists to develop conversational agents for improving mental well-being
- Conducted two longitudinal studies with 102 participants to explore the effect of the chatbot designs

Intern - BOSCH Research and Technology Center May 2017 - Aug 2017

Topic: Conversational User Interface and IoT, Supervisor: Dr. Lisa Yu

- Designed an AI-based chatbot to help collect knowledge from auto technicians
- Implemented a IoT system which integrated the chatbot with existing BOSCH devices and sensors to detect auto technicians' intentions during a car diagnostic
- Conducted field studies with 13 auto technicians in auto repair shops to observe how the users interact with the IoT system

Research Assistant - Computer Science, NCTU Aug 2011 - June 2014

Topic: Brain-Computer Interface, Neuroscience

- Designed and developed real-time systems to track human visual and auditory attention through EEG

- Developed machine learning models to classify human visual and auditory attention
- Designed a new interface in the online learning environment to help improve students' learning outcome and social interaction with the online courses

TEACHING EXPERIENCE

Teaching Assistant Aug 2020 - Now
 UIUC IS496: *Designing for Interactive Social Experiences*, Instructor: Prof. Yun Huang

- Taught the concept of conversational user interface
- Ran and Designed Lab sessions to help students build up hands-on experience of developing AI-based chatbots
- Guided students to conduct experimental studies and text analysis

Teaching Assistant Aug 2019 - Dec 2019
 UIUC CS105: *Intro Computing*, Instructor: Prof. Craig Zilles

- Taught Lab sessions to guide junior students Python programming
- Designed lecture materials

Instructor July 2019 - Aug 2019
 AI-HUB Summer Camp

- Taught the concept of conversational user interface and AI
- Ran Lab sessions to help students build up hands-on experience of developing AI/rule-based chatbots

Teaching Assistant Jan 2019 - May 2019
 UIUC CS467: *Social Visualization: people, data, and stories*, Instructor: Prof. Karrie Karahalios

- Guided students to conduct experimental studies and data analysis
- Led discussion of social visualization in some lectures

SKILLS

Technical Skills Python, Node.js, C/C++, SQL, MongoDB, Matlab, HTML
Research Skills Quantitative & Qualitative Methods, Field/Lab experiment, Usability Testing
 Statistics, Text Analysis

PUBLICATION

1. **Yi-Chieh Lee**, Naomi Yamashita, Yun Huang, *Exploring the Effects of Social Learning in Human-Chatbot Interaction* (Submitted to CHI2021)
2. **Yi-Chieh Lee**, Naomi Yamashita, Yun Huang, *Exploring the Effects of Incorporating Human Experts to Deliver Journaling Guidance through a Chatbot* (Revision, CSCW2021)
3. **Yi-Chieh Lee**, Naomi Yamashita, Yun Huang, *Let's Work Together: Integrating Human Support with Conversational Agents*. Microsoft New Future of Work Symposium (NFW), 2020
4. **Yi-Chieh Lee**, Naomi Yamashita, Yun Huang, *Designing a Chatbot as a Mediator for Promoting Deep Self-Disclosure to a Real Mental Health Professional*. ACM CSCW 2020
5. **Yi-Chieh Lee**, Naomi Yamashita, Yun Huang, Wai Fu, *"I Hear You, I Feel You": Encouraging Deep Self-disclosure through a Chatbot*. ACM CHI 2020
6. Masamune Kawasaki, Naomi Yamashita, **Yi-Chieh Lee**, Kayoko Nohara, *Assessing Users' Mental Status from their Journaling Behavior through Chatbots*. International Conference on Intelligent Virtual Agents (IVA) 2020

7. Li-Wei Ko, Rupesh Kumar Chikara, **Yi-Chieh Lee**, Wen-Chieh Lin. *Exploration of User's Mental State Changes during Performing Brain-Computer Interface*. Sensors 2020
8. **Yi-Chieh Lee**%, Dennis Wang%, Wai-Tat Fu. *"I Love the Feeling of Being on Stage, but I Become Greedy": Exploring the Impact of Monetary Incentives on Live Streamers' Social Interactions and Streaming Content*. ACM CSCW 2019
9. **Yi-Chieh Lee**, Chi-Hsien Yen, Dennis Wang, Wai-Tat Fu. *Understanding How Digital Gifting Influences Social Interaction on Live Streams*. ACM MobileHCI 2019
10. **Yi-Chieh Lee**, Wai-Tat Fu. *Supporting peer assessment in education with conversational agents*. ACM IUI 2019
11. **Yi-Chieh Lee**, Chi-Hsien Yen, Po-Tsung Chiu, Jung-Tai King, Wai-Tat Fu. *Tip Me! Tipping is Changing Social Interactions on Live Streams in China*. ACM CHI 2018 WIP
12. **Yi-Chieh Lee**%, Chi-Hsien Yen%, and Wai-Tat Fu. *Visible Hearts, Visible Hands: A Smart Crowd Donation Platform*. ACM IUI 2018
13. Chi-Hsien Yen, **Yi-Chieh Lee**, and Wai-Tat Fu. *Improving the Efficiency of Allocating Crowd Donations with Agent-Based Simulation Model*. In International Conference on Social Computing, Behavioral-Cultural Modeling and Prediction and Behavior Representation in Modeling and Simulation, SBP-BRiMS 2017.
14. **Yi-Chieh Lee**%, Chi-Hsien Yen%, and Wai-Tat Fu. *Improving Donation Distribution for Crowdfunding: An Agent-Based Model*. In Social, Cultural, and Behavioral Modeling: 9th International Conference, SBP-BRiMS 2016.
15. **Yi-Chieh Lee**, Wen-Chieh Lin, Li-Wei Ko, Fu-Yin Cherng. *Visual Attention Monitor Based on Steady-state Visual Evoked Potential*, *IEEE Transactions on Neural Systems Rehabilitation Engineering*. IEEE TNSRE 2016, Issue 3. **(Selected as the journal front cover)**
16. **Yi-Chieh Lee**, Wen-Chieh Lin, Fu-Yin Cherng, Hao-Chuan Wang, Ching-Ying Sung, Jung-Tai King. *Using Time-Anchored Peer Commenting to Enhance Social Interaction in Online Education Videos*. ACM CHI 2015
17. Sheng-Fu Liang, Chih-En Kuo, **Yi-Chieh Lee**, Wen-Chieh Lin, Yen-Chen Liu, Peng-Yu Chen, Fu-Yin Cherng, Fu-Zen Shaw. *Development of an EOG-based Automatic Sleep Monitoring Eye Mask*, *IEEE Transactions on Instrumentation and Measurement*. IEEE TIM 2015
18. **Yi-Chieh Lee**, Wen-Chieh Lin, Jung-Tai King, Li-Wei Ko, Yu-Ting Huang, Fu-Yin Cherng. *An EEG-based Approach for Evaluating Audio Notifications under Ambient Sounds*. ACM CHI 2014 **(Best paper Honorable Mention Award, Top 5%)**
19. Chih-En Kuo, Sheng-Fu Liang, **Yi-Chieh Lee**, Fu-Yin Cherng, Wen-Chieh Lin, Peng-Yu Chen. *An EOG-based Sleep Monitoring System and Its Application on On-line Sleep-Stage Sensitive Light Control*. International Conference on Physiological Computing Systems, PhyCS 2014 **(Selected Paper, Top 5%)**

ACADEMIC SERVICE

- Reviewer: ACM CHI'16, '17, '20, '21; ACM IUI'19; ACM HRI'18; ACM MobileHCI'20; Eurographics PG'17; JDIQ'20, TiiS'20; IJHCS'20
- Subcommittee Chair Assistant: ACM CHI' 20
- Program Committee: SBP-BRiMS'20
- Organising Committee: ACM IUI'19
- Student Volunteer: ACM CHI'16, ACM CHI'18

HONORS

- Studying Abroad Scholarship, Ministry of Education - 2016 & 2017
- Chirag Foundation Graduate Fellowship, UIUC Computer Science - 2015/8 - 2016/5
- Honorable Mention Award (Full paper) - SIGCHI 2014
- Young Researcher Thesis Award, The Chinese Institute of Electrical Engineering (CIEE), 2014
- Scholarship Award for Excellent Doctoral Student granted by NCTU, 2013/08-2014/06

REFERENCE

- Dr. Yun Huang (UIUC, yunhuang@illinois.edu)
- Dr. Naomi Yamashita (NTT, naomiy@acm.org)
- Dr. Wai Fu (Raytheon BBN, wai.fu@acm.org)
- Dr. Wen-Chieh Lin (NCTU, wclin@cs.nctu.edu.tw)
- Dr. Hao-Chuan Wang (UC Davis, hciwang@ucdavis.edu)
- Dr. Jung-Tai King (NCTU, jtchin2@gmail.com)