Fu-Yin Cherng

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Education

Computer Science, National Chiao Tung University — **Hsinchu, Taiwan**
Ph.D. Candidate — *2014 – present*
Supervised by professor Wen-Chieh Lin

Computer and Communication Sciences, EPFL — **Lausanne, Switzerland**
Doctoral Research Assistant — *2016 – 2017*
Supervised by professor Pierre Dillenbourg and Robert West

Computer Science, National Chiao Tung University — **Hsinchu, Taiwan**
Bachelor Degree — *2009 – 2013*
Supervised by professor Jung-Hong Chuang

Publications

Fu-Yin Cherng, Wen-Chieh Lin, Jung-Tai King, Yi-Chen Lee. "Measuring the Influences of Musical Parameters on Cognitive and Behavioral Responses to Audio Notifications Using EEG and Large-scale Online Studies" Proceedings of the SIGCHI Conference on Human Factors in Computing Systems. ACM, 2019.

Yi-Chen Lee, **Fu-Yin Cherng**, Wen-Chieh Lin, Jung-Tai King. "To Repeat or Not to Repeat?: Redesigning Repeating Auditory Alarms Based on EEG Analysis" Proceedings of the SIGCHI Conference on Human Factors in Computing Systems. ACM, 2019.

Cherng, Fu-Yin, Wen-Chieh Lin, Jung-Tai King, and Yi-Chen Lee. "Understanding the Influence of Musical Parameters on Cognitive Responses of Audio Notifications." Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems. ACM, 2018.

Ching-Ying Sung, Xun-Yi Huang, Yicong Shen, **Fu-Yin Cherng**, Wen-Chieh Lin, and Hao-Chuan Wang. "Exploring online learners' interactive dynamics by visually analyzing their time-anchored comments." In Computer Graphics Forum, volume 36, pages 145–155. Wiley Online Library, 2017.

Ching-Ying Sung, Xun-Yi Huang, Yicong Shen, **Fu-Yin Cherng**, Wen-Chieh Lin, and Hao-Chuan Wang. "Topin: A visual analysis tool for time-anchored comments in online educational videos." In Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems, pages 2185–2191. ACM, 2016.

Fu-Yin Cherng, Wen-Chieh Lin, Jung-Tai King, Yi-Chen Lee. "An EEG-based Approach for Evaluating Graphic Icons from the Perspective of Semantic Distance" Proceedings of the SIGCHI Conference on Human Factors in Computing Systems. ACM, 2016 **(Honorable Mention Award, 4 % of all submitted paper)**.

Hsin-Yang Ho, I-Cheng Yeh, Yu-Chi Lai, Wen-Chieh Lin, and **Fu-Yin Cherng**. "Evaluating

2d flow visualization using eye tracking." In Computer Graphics Forum, volume 34, pages 501–510. Wiley Online Library, 2015.

Sheng-Fu Liang, Chin-En Kuo, Yi-Chieh Lee, Wen-Chieh Lin, Yen-Chen Liu, Peng-Yu Chen, **Fu-Yin Cherng**, and Fu-Zen Shaw. "Development of an eog-based automatic sleep-monitoring eye mask." IEEE Transactions on Instrumentation and Measurement, 64(11):2977–2985, 2015.

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 Educational Videos." Proceedings of the SIGCHI Conference on Human Factors in Computing Systems. ACM, 2015.

Lee, Yi-Chieh, Wen-Chieh Lin, Jung-Tai King, Li-Wei Ko, Yu-Ting Huang, and **Fu-Yin Cherng**. "An EEG-based approach for evaluating audio notifications under ambient sounds." Proceedings of the 32nd annual ACM conference on Human factors in computing systems. ACM, 2014 **(Honorable Mention Award, 5 % of all submitted paper)**.

Chih-En Kuo, Sheng-Fu Liang, Yi-Chieh Li, **Fu-Yin Cherng**, Wen-Chieh Lin, Peng-Yu Chen, Yen-Chen Liu, and Fu-Zen Shaw. "An eog-based sleep monitoring system and its application on on-line sleep-stage sensitive light control." In PhyCS, pages 20–30, 2014.

Research Projects

EEG-based Approach for Graphic and Audio Icons Evaluation (2015-present): The goal of this project is to reveal essential but hitherto neglected implications for graphic-icon design by proposing a new evaluation method based on detecting users' brain signal (Electroencephalography, short for EEG). I am the initiator and leader of this project. My works include research literature survey, design and conduct experiments, statistical analysis and identify findings. We have published related papers in CHI 2014, CHI 2016, CHI 2018, and CHI 2019.

Detect Hidden Training Needs Using Job Ads (2016-2017): The goal of this project is to find emerging jobs by empirically analyzing job advertisements (job ads) from the online job board. I am the primary executor of this project. My jobs include a collection of the dataset of yearly job ads, using natural language processing to extract skills and topics of requirements and interpretation of the results from an exploratory analysis. This project is sponsored by the federal Department of the Economy, training, and research of Switzerland.

Application of Time-anchored Peer Comments in Online Learning (2014-2016): The goal of this project is to enhance the experience of online learners and instructors by applying and analyzing time-anchored comments. In this project, I conducted the experiment and interview. I also statistically analyzed the features of time-anchored comments under different experimental conditions to identify critical findings. We published this work in CHI 2015 and Computer Graphics Forum 2017.

Experience

International Conference

Student Volunteer Chair — **Taipei, Taiwan**
MobileHCI 2019

Presenter — **Glasgow, UK**
ACM CHI 2019

Presenter — **Montréal, Canada**
ACM CHI 2018

Presenter — **San Jose, USA**
ACM CHI 2016

Presenter — **Seoul, Korea**
ACM CHI 2015

Activities and Work Experience

Social Welfare Organization Assisting Teenage School Drop-outs — **Hsinchu, Taiwan**
Volunteer Tutor — *2015 – 2016*

Industrial Technology Research Institute of Taiwan — **Hsinchu, Taiwan**
Contractor — *2015 – 2016*

Languages

Mandarin: Native Speaker

English: Adequate

Computer Skills

Programming: C, C++, Java, Python, CSS, HTML, JavaScript, PHP, Python, Keras, R, Matlab, Latex

Others: Natural Languages Processing, Data Analysis, Applied Machine Learning, Statistical Analysis, EEG Signal Analysis