Fu-Yin Cherng

https://fuyincherng.github.io/ fycherng@ntu.edu.tw
Google Scholar: shorturl.at/krzKX (+886) 920-653-773

PERSONAL INFORMATION

Address: 7G, Barry Lam Hall, No. 1, Section 4, Roosevelt Rd, Daan District, Taipei
Date of Birth: 1990/09/22

RESEARCH INTEREST

Human-Computer Interaction, Data-Driven Design, Brain-Computer Interface, Neuroergonomics, Learning Analytics

EDUCATION

Ph.D. in Computer Science 2014 – 2019
National Chiao Tung University, Advisor: Prof. Wen-Chieh Lin
• Thesis: Understanding the Usability of Audio Notifications and Graphic Icons by EEG-based Approach and Large-scale Online Studies

M.S. Student in Computer Science 2013 – 2014
National Chiao Tung University, Advisor: Prof. Wen-Chieh Lin

B.S. in Computer Science 2009 – 2013
National Chiao Tung University

EMPLOYMENT HISTORY

National Taiwan University / Adjunct Assistant Professor Spring 2021
Information Management Dept.
• Co-instruct the course, Data Structures and Advanced Programming

National Taiwan University / Postdoctoral Researcher 2020 – present
Advisor: Prof. Bing-Yu Chen; Information Management Dept.
• Conducted exploratory study of developing and evaluating child-friendly programming environments with concretized computational concepts
• Participated in industrial-granted projects of NTU IoX center with Delta Electronics to develop mixed-reality system for remote meeting and training

University of California, Davis / Postdoctoral Researcher 2019 – 2020
Advisor: Prof. Hao-Chuan Wang; Computer Sciences Dept.
• Conducted research projects to discover the effect of social information on customers preference using survey and behavior experiments
• Participated in writing proposals with national and industrial grants with multidisciplinary teams to design research plans

École Polytechnique Fédérale de Lausanne / Doctoral Assistant 2016 – 2017
Advisor: Prof. Pierre Dillenbourg and Prof. Robert West; Computer and Communication Sciences Dept.
• Conducted research projects funded by the Swiss government to understand the evolution of the IT labor market by analyzing job titles and skills from 600k job ads collected (Open Source on GitHub)
• Conducted exploratory analysis to reveal what computational skills are important for the current and future labor market based on job ads and online forums

National Chiao Tung University / Research Assistant 2013 – 2019
Advisor: Prof. Wen-Chieh Lin; Computer Science Dept.
• Built website to deploy usability experiments to access users reactions and perceptions at large scale in the Amazon Mechanical Turk (Open Dataset on GitHub)
• Constructed pipeline using Python, R, and Matlab on physiological and self-report data to understand and predict users perceptions
• Derived actionable guidelines for designers to create notifications tailored users cognitive status by using quantitative and qualitative methods

PUBLICATIONS **Refereed Conference & Journal Publications**

1. Xun-Yi Huang, **Fu-Yin Cherng**, Jung-Tai King, Wen-Chieh Lin. EEG-based Measures of Auditory Saliency in a Complex Context. Proceedings of the 21st International Conference on Human-Computer Interaction with Mobile Devices and Services, MobileHCI'19. ACM (acceptance rate: 26.4%).

2. **Fu-Yin Cherng**, Yi-Chen Lee, Jung-Tai King, Wen-Chieh Lin. Fu-Yin Cherng, Yi-Chen Lee, Jung-Tai King, Wen-Chieh Lin. Measuring the Influences of Musical Parameters on Cognitive and Behavioral Responses to Audio Notifications Using EEG and Large-scale Online Studies. Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems, CHI'19. ACM (acceptance rate: 23.8%).

3. Yi-Chen Lee, **Fu-Yin Cherng**, Jung-Tai King, Wen-Chieh Lin. To Repeat or Not to Repeat?: Redesigning Repeating Auditory Alarms Based on EEG Analysis. Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems, CHI'19. ACM (acceptance rate: 23.8%).

4. 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. Computer Graphics Forum, volume 36, pages 145155. Wiley Online Library, 2017 (SCI).

5. **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 2016 CHI conference on human factors in computing systems, CHI'16. ACM **(acceptance rate: 23%; Best Paper Honorable Mention Award, 4 % of over 2,000 submitted papers)**

6. Yi-Chieh Lee, Wen-Chieh Lin, **Fu-Yin Cherng**, Li-Wei Ko. A visual attention monitor based on steady-state visual evoked potential. IEEE Transactions on neural systems and rehabilitation engineering, 2015, 24.3: 399-408, (SCI).

7. 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 2015 CHI conference on human factors in computing systems, CHI'15. ACM (acceptance rate: 25%).

8. Sheng-Fu Liang, Chin-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, 2015, 64.11: 2977-2985, (SCI).

9. HsinYang Ho, ICheng Yeh, YuChi Lai, WenChieh Lin, **FuYin Cherng**. Evaluating 2D flow visualization using eye tracking. Computer Graphics Forum, volume 34, pages 501510. Wiley Online Library, 2015, (SCI).

10. 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. Proceedings of the 2014 CHI conference on human factors in computing systems, CHI'14. ACM **(acceptance rate: 26.7%; Best Paper Honorable Mention Award, 5 % of over 2,000 submitted papers)**

11. Chih-En Kuo, Sheng-Fu Liang, Yi-Chieh Lee, **Fu-Yin Cherng**, Wen-Chieh Lin, Peng-Yu Chen, Yen-Chen Liu, Fu-Zen Shaw. An EOG-based automatic sleep scoring system and its related application in sleep environmental control. International Conference on Physiological Computing Systems, 2014

12. Yi-Chieh Lee, Wen-Chieh Lin, Li-Wei Ko, **Fu-Yin Cherng**, Pei-Hua Huang,

Yu-Ting Huang, Xun-Yi Huang. Seeing What Your Brain Sees: A Visual Attention Monitor Based on Steady-state Visually Evoked Potential. Proceedings of the International Symposium of Chinese CHI. ACM Press, 2014.

13. 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 Online Sleep-Stage Sensitive Light Control. Proceedings of the International Conference on Physiological Computing Systems, 2014.

Poster & Workshop Papers

1. Meng-Yun Liao, Ching-Ying Sung, Hao-Chuan Wang, Wen-Chieh Lin, **Fu-Yin Cherng**. Embodying Historical Learners' Messages as Learning Companions in a VR Classroom. Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems, CHI'19. ACM.

2. **Fu-Yin Cherng**, 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, CHI'18. ACM.

3. 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. Extended Abstracts of the 2016 CHI Conference on Human Factors in Computing Systems, CHI'16. ACM.

HONORS & AWARDS

2020 Honorary Member of Phi Tau Phi, National Chiao Tung University
2016 ACM CHI Best Paper Honorable Mentioned Award
2016 Doctoral Fellowship (51,100 CHF), EPFL
2014 ACM CHI Best Paper Honorable Mentioned Award

SERVICE

Program Committee Member

• Student Volunteer Chair, MobileHCI, 2019

Reviewing

• ACM CHI, Human Factors in Computing Systems
• ACM CSCW, Computer-Supported Cooperative Work & Social Computing
• IEEE VR, Virtual Reality and 3D User Interfaces
• IEEE Access, The Multidisciplinary Open Access Journal
• ACM Transactions on Multimedia Computing Communications and Applications

INVITED TALKS

• "Understanding User Cognition for Human-Computer Interaction" Seminar - Institute of Information Systems and Applications, National Tsing Hua University, Dec. 2020 (talk info.)
• "How to Design User's Mind and Behavior with Large-Scale Data" Research Center for Information Technology Innovation, Academia Sinica, Sept. 2020 (talk info.)
• "Applying Brain-Computer Interfaces to Evaluation of Graphic Icons and Auditory Icons Design." Taiwan Society of Cognitive Neuroscience Annual Meeting, National Chiao Tung University, Jan. 2019 (talk info.)

REFEREES

Prof. Wen-Chieh Lin, Department of Computer Science, National Yang Ming Chiao Tung University, wclin@cs.nctu.edu.tw
Prof. Hao-Chuan Wang, Department of Computer Science, University of California, Davis, hciwang@ucdavis.edu
Prof. Bing-Yu Chen, Department of Information Management, National Taiwan University, robin@ntu.edu.tw