

# Fu-Yin Cherng

✉ fuyincherng@gmail.com • 🌐 <https://fuyincherng.github.io/>

## Education

---

**Computer Science, National Chiao Tung University**

*Ph.D. Candidate*

Supervised by professor Wen-Chieh Lin

**Hsinchu, Taiwan**

2014 – present

**Computer and Communication Sciences, EPFL**

*Doctoral Research Assistant*

Supervised by professor Pierre Dillenbourg and Robert West

**Lausanne, Switzerland**

2016 – 2017

**Computer Science, National Chiao Tung University**

*Master Student*

Supervised by professor Wen-Chieh Lin

**Hsinchu, Taiwan**

2013 – 2014

**Computer Science, National Chiao Tung University**

*Bachelor Degree*

Supervised by professor Jung-Hong Chuang

**Hsinchu, Taiwan**

2009 – 2013

## Publications

---

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 21th International Conference on Human-Computer Interaction with Mobile Devices and Services. ACM, 2019.

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. ACM, 2019.

**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. 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**).

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 24.3 (2015): 399-408.

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 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. Springer, 2014.

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*

**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