Fu-Yin Cherng

https://fuyincherng.github.io/ fuyincherng@gmail.com
Google Scholar: shorturl.at/krzKX (+1) 530-564-9381

EMPLOYMENT HISTORY

University of California, Davis - Postdoctoral Researcher 2019 – present
- Computer Science Department, supervised by Prof. Hao-Chuan Wang
- Collaborative project with Looxid Labs about users' preference.
- Experiment design, statistical analysis on behavioral and physiological data

École Polytechnique Fédérale de Lausanne - Doctoral Assistant 2016 – 2017
- Computer and Communication Sciences, supervised by Prof. Pierre Dillenbourg
- Job-market analysis project sponsored by the federal department of Switzerland.

Industrial Technology Research Institute - Contractor 2013 – 2014
- Information and Communications Research Laboratories
- App maintenance, weekly database updating, and banner designer

EDUCATION

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

National Chiao Tung University - Master Student 2013 – 2014
- Computer Science and Engineering, Multimedia Engineering
- Supervised by Prof. Wen-Chieh Lin
- Major in Human-computer Interaction (HCI) and computer vision.

National Chiao Tung University - Bachelor (BS) 2009 – 2013
- Computer Science and Engineering
- Specialized in Network and Multimedia Engineering Program
- Finalist of project competition; topic: Real-time Facial Motion Capture & Animation Using Kinect

SELECTED PUBLICATIONS

X.Y. Huang, **Fu-Yin Cherng**, J.T. King, W.C. Lin. "EEG-based Measures of Auditory Saliency in a Complex Context." ACM MobileHCI, 2019.

Fu-Yin Cherng, W.C. Lin, J.T. King, Y.C. Lee., "Measuring the Influences of Musical Parameters on Cognitive and Behavioral Responses to Audio Notifications Using EEG and Large-scale Online Studies ACM CHI, 2019.

Y.C. Lee, **Fu-Yin Cherng**, W.C. Lin, J.T. King., "To Repeat or Not to Repeat?: Redesigning Repeating Auditory Alarms Based on EEG Analysis ACM CHI, 2019.

C.Y. Sung, X.Y Huang, Y Shen, **Fu-Yin Cherng**, W.C. Lin, H.C. Wang. "Exploring online learners interactive dynamics by visually analyzing their time-anchored comments." Computer Graphics Forum, 2017.

Fu-Yin Cherng, W.C. Lin, J.T. King, Y.C. Lee., "An EEG-based Approach for Evaluating Graphic Icons from the Perspective of Semantic Distance" ACM CHI, 2016. **(Honorable Mention Award, 4 % of all submitted paper)**.

Y.C. Lee, W.C. Lin, **Fu-Yin Cherng**, H.C. Wang, C.Y. Sung, J.T. King. "Using Time-Anchored Peer Commenting to Enhance Social Interaction in Online Educational Videos." ACM CHI, 2015.

Y.C. Lee, W.C. Lin, J.T. King, L.W. Ko, Y.T. Huang, **Fu-Yin Cherng**., "An EEG-based approach for evaluating audio notifications under ambient sounds." ACM CHI, 2014. **(Honorable Mention Award, 5 % of all submitted paper)**.

PROJECTS

Social Formation of Users' Preferences 2019 – present
- Compared users' stated- and neuro-preference in VR-embedded scenarios
- Effects of social conformity on individual preference

Technologies: Virtual Reality, Social Computing, Neuromarketing

Large-scale Online Studies for Graphic and Audio Icons 2018 – 2019
- Over 2k online workers of Amazon MTurk rated 10k icons.
- Influences of demographics, experience, and environments on different designs.
- Built neural network models to predict users' perceptions on new icons.
- Published in ACM CHI'19

Technologies: Website Implementation, Crowdsourcing, Data-driven Design, Convolutional Neural Network, Siamese Network.

EEG-based Methods for Graphic and Audio Icons Evaluation 2014 – 2018
- New evaluation methods of graphic and audio icons based on users' brain signal.
- Show how covert cognitive states and processing complement behavioral results
- Published in ACM CHI'14, CHI'16 and CHI'19.

Technologies: EEG & Eye-tracking Data Analysis, Empirical Experiment Design, Cognitive Neuroscience

Detect Hidden Training Needs Using Job Ads 2016 – 2017
- Trends detection of job titles and skills from 600k job ads.
- Cross dataset analysis with Google Trends.
- Topic Analysis of Coursera Forum and Stack Exchange.

Technologies: Data Scraping, Data Wrangling, Natural Language Processing, Latent Dirichlet Allocation

Time-anchored Peer Comments in Online Learning 2014 – 2016
- Online learning website with interactive comment system.
- Prototype interface to visualize comments with topic and sentiment analysis.
- Published in ACM CHI'15 and Computer Graphics 2017

Technologies: Natural Language Processing, Usability Testing, Statistical Analysis

ACTIVITIES & AWARDS

Oral Presentation, CHI'15, CHI'16, CHI'19, MobileHCI'19.
Student Volunteer Chair and Associate Chair, MobileHCI'19.

Honorable Best Paper Mentioned Award, CHI'14 and CHI'16.
Doctoral Fellowship, Computer and Communication Sciences, EPFL, 2016.

LANGUAGES & SKILLS

Programming Languages: C, C++, Java, Python, CSS, HTML, JavaScript, PHP, R, Matlab, LaTeX, Markdown

Open-source Libraries: Keras, PyTorch, Numpy, Pandas, scikit-learn, gensim, OpenCV, PIL, Firebase, Jupyter Notebook

Knowledge Fields: Human-computer Interaction, Brain-computer Interface, Neuroergonomics, Cognitive Psychology, Cognitive Neuroscience, Usability Testing, Quantitative Methodology, Experiment Design, Data-driven Design, Crowdsourcing, Natural Languages Processing, Applied Deep Learning & Machine Learning, Statistical Analysis, Image Processing

Languages: Mandarin Chinese (native speaker), English (fluent), French (beginner).