Fu-Yin Cherng

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EMPLOYMENT HISTORY

University of California, Davis - Postdoctoral Researcher 2019 – present
- Collaborative and Social Computing Lab, supervised by Prof. Hao-Chuan Wang
- Human-computer interaction research and data scientist for experiment data
- Designed social computing experiment for the startup, Looxid Labs
- Led research team of undergraduate and graduate students

École Polytechnique Fédérale de Lausanne - Doctoral Assistant 2016 – 2017
- Computer-Human Interaction in Learning and Instruction Lab at EPFL, supervised by Prof. Pierre Dillenbourg
- Assisted research project about labor market funded by the Swiss government
- Conducted exploratory analysis and trend detection on job ads
- Developed computational models of tag prediction for posts of online forums

National Chiao Tung University - Research Assistant 2013 – 2019
- Department of Computer Science, supervised by Prof. Wen-Chieh Lin
- Built prototypes for usability evaluations
- Established pipeline for statistical and predictive data analysis
- Derived actionable guidelines using quantitative and qualitative method

EDUCATION

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

National Chiao Tung University - B.S. 2009 – 2013
- Department of Computer Science
- Specialized in Network and Multimedia Engineering Program
- BS Project: Real-time Facial Motion Capture & Animation Using Kinect

SKILLS & LANGUAGES

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

Open-source Libraries: Keras, PyTorch, Numpy, Pandas, scikit-learn, gensim, OpenCV, PIL, Firebase, Jupyter Notebook, Google Cloud Platform, Github, Spark, Apache Hadoop

Knowledge Fields Human-computer Interaction, User Experience, Quantitative Methodology, Data-driven Design, Crowdsourcing, Cognitive Psychology, Natural Languages Processing, Deep Learning & Machine Learning, Statistical Analysis

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

RESEARCH PROJECTS

Social Preference Effect in E-Commerce Context 2019 – present
University of California, Davis, Collaborative and Social Computing Lab
- Studied users' internal and external preference
- Showed effects of social conformity on users' preference
- Derived design implications for supporting users' decision-making process under influences of social conformity

Technologies: Social Computing, Neuromarketing, Virtual Reality

Large-scale Online Studies for Graphic and Audio Icons 2018 – 2019
Chiao Tung University, Graphics and Perception Lab
- Collected and curated massive data with over 2k online workers rated 10k icons

• Achieved accuracy of 85% on predicting users' feedback with CNN models
• Studied effects of demographics, experience, and contexts on feedback to icons
Technologies: Full-stack development, Deep Learning, Data-driven Design

Brain Sensing Techniques on Evaluating Design and Usability 2014 – 2018
Chiao Tung University, Graphics and Perception Lab & Brain Research Center
• Conducted literature survey and experiment to collect users' brain signals
• Applied Matlab toolboxes to process brain signals for offline and online analysis
• Showed cognitive states complement behavioral and self-report evaluation
Technologies: Physiological Data Analysis, Experiment Design, Cognitive Psychology, Electroencephalography (EEG), Eye Tracking

Detect Hidden Training Needs Using Job Advertisements 2017
EPFL, Computer-Human Interaction in Learning and Instruction Lab
• Find job titles and skills from 600k job ads.
• Developed framework to scrap and aggregate job ads from multiple job boards
• Conducted cross dataset analysis between job ads and Google Trends
Technologies: Data Scraping, Data Wrangling, Natural Language Processing, Trend Detection

Finding Question Topics in MOOCs Forum by Using Stack Exchange 2016
EPFL, Computer-Human Interaction in Learning and Instruction Lab
• Measured divergence of word distributions between two platforms
• Achieved mean accuracy of 88% on predicting tags for online posts
Technologies: Multi-label Classifier, Clustering, Bag-of-words Method, Word2Vec, Latent Dirichlet Allocation

Time-anchored Peer Comments in Online Learning 2015
Chiao Tung University, Graphics and Perception Lab
• Designed an online learning website with an interactive commenting system
• Prototyped interface to visualize comments with topic and sentiment analysis
• Conducted usability testing and factorial experiment with learners and instructors
Technologies: Online Learning, Visualization, Usability Testing, Statistical Analysis, Natural Language Processing

SELECTED PUBLICATIONS

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

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 over 2k 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 over 2k submitted paper)**

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 & CHI'16
Doctoral Fellowship, Computer and Communication Sciences, EPFL, 2016