Fu-Yin Cherng

User Researcher & Data Scientist

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Professional Summary

I'm a user experience researcher at the University of California, Davis. I designed research plans for evaluating users' behaviors and cognitions qualitatively and quantitatively to the industrial and academic collaborators. I developed interdisciplinary professional skills (e.g., human-computer interaction, data science, and cognitive neuroscience) and published 13 papers and two award-winning papers within five years at top-tier academic conferences with over a hundred citations from other researchers. Please view my personal website for more information.

Work Experience

University of California, Davis / Postdoctoral Researcher

Nov. 2019 - PRESENT, Davis, CA, USA

Managed the research team of graduate students to discover the effect of social information on customers' preference using neuromarketing (project link)

Participated in writing proposals with ~$300,000 national and industrial grants with interdisciplinary teams

Technologies: Social Computing, Neuromarketing, Virtual Reality

École Polytechnique fédérale de Lausanne (EPFL) / Doctoral Assistant

Sept. 2016 - Nov. 2017, Lausanne, Switzerland

Did 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 (project link)

Conducted exploratory analysis to reveal what computational skills are important for the current and future labor market based on job ads and online forums

Developed multi-label classifier by R and Python to tag new posts in online forums with an accuracy of 88% (project link)

Technologies: Machine Learning, Multi-label Classifier, Natural Language Processing

National Chiao Tung University / Research Assistant

Sept. 2013 - Nov. 2019, Hsinchu, Taiwan

Built website prototypes for deploy usability experiments to access general users' reactions and perceptions at large scale in the Amazon platform (project link)

Established pipeline using Python, R, and Matlab for statistical and predictive analysis on physiological and self-report data to understand and predict users' perception

Derived actionable guidelines for UX designers to create notifications tailored users cognitive status by using quantitative and qualitative methods (project link)

Technologies: Data-driven Design, Experiment Design, Cognitive Psychology

Education

National Chiao Tung University / Ph.D.

Sept. 2014 - Nov. 2019, Hsinchu, Taiwan

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.

Sept. 2009 - July 2013, Hsinchu, Taiwan

Department of Computer Science specialized in Multimedia Engineering Program

Skill & Languages

Programming Languages

C, C++, Java, Python, CSS, HTML, JavaScript, PHP, SQL, R, Matlab, LaTeX, Markdown

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, Machine Learning, Statistical Analysis

Languages

Mandarin Chinese (native speaker), English (fluent)

Research Projects

Social Preference Effect in E-Commerce Context

2019 - Present, UC Davis, Collaborative and Social Computing Lab

Studied users' internal and external preference and effects of social conformity

Derived design implications for supporting users' decision-making process

Technologies: Social Computing, Neuromarketing, Virtual Reality

Large-scale Online Studies for Graphic and Audio Icons

2017 - 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, Data-driven Design, Convolutional Neural Network

Brain Sensing Techniques on Evaluating Design and Usability

2014 - 2018, Chiao Tung University, Graphics and Perception Lab

Conducted a 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

Detect Hidden Training Needs Using Job Advertisements

2017, EPFL, Computer-Human Interaction in Learning and Instruction Lab

Analyzed 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 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: Machine Learning, Multi-label Classifier, Clustering, Word Embedding

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

Activities & Awards

Leadership

Student Volunteer Chair and Associate Chair, MobileHCI'19

Captain of Women's Departmental Basketball Team at Chiao Tung University

Award

Honorable Best Paper Mentioned Award, ACM CHI 2014 & 2016

Doctoral Fellowship, EPFL, 2016

Activities

Oral Presentation in English, ACM CHI 2015, 2016, 2018, 2019

Volunteer Tutor of Social Welfare Organization Assisting Teenage School Drop-outs

Technical Advisor of The Delight of Chinese Character Exhibition, 2013