FU-YIN CHERNG

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EDUCATION

Ph.D. student, Computer and Communication Sciences, EPFL 2016 - present
Ph.D. student, Computer Science, National Chiao Tung University, Taiwan 2013 - 2016
(Transferred to EPFL in 2016)
B.S., Computer Science, National Chiao Tung University (NCTU), Taiwan 2009 - 2013

RESEARCH INTERESTS

Human-Computer Interaction, Brain-Computer Interface, Online Education, Social Computing, Identify Users' Cognitive Process with Physiological Measurements.

PUBLICATIONS

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.)*

Ching-Ying Sung, Xun-Yi Huang, Yicong Shen, Wen-Chien Lin, **Fu-Yin Cherng**, Hao-Chuan Wang. "ToPIN: A Visual Analysis Tool for Time-anchored Comments in Online Educational Videos" *CHI'16 Extended Abstracts on Human Factors in Computing Systems. ACM, 2016.*

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*

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.*

Hsin-Yang Ho, I-Cheng Yeh, Yu-Chi Lai, Wen-Chieh Lin, **Fu-Yin Cherng**. "Evaluating 2D Flow Visualization Using Eye Tracking." *Computer Graphics Forum. Vol. 34. No. 3. 2015.*

Sheng-Fu Liang, Chih-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.*

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 SIGCHI Conference on Human Factors in Computing Systems. ACM, 2014. (Honorable Mention Award. 5% of all submitted papers)*

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.*

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 On-line Sleep-Stage Sensitive Light Control." *Proceedings of the International Conference on Physiological Computing Systems, 2014.*

RESEARCH EXPERIENCE

Attended and presented at *ACM CHI 2016*, San Jose, USA 2016
Attended and presented at *ACM CHI 2015*, Seoul, Korea 2015
Attended *ACM CHI 2014*, Toronto, Canada 2014
Member of the Graphics & Perception Lab, National Chiao Tung Univeristy 2013 - 2016

RESEARCH PROJECTS

EEG-based Approach for Graphic Icons Evaluation. 2015 - 2016

· Goal is to reveal important but hitherto neglected implications for graphic-icon design by proposing new evaluation method based on detecting users' brain signal (Electroencephalography, EEG).

My Work

· Initiated and designed this project.
· Main executor of this project: research literature survey, design and conduct experiments, statistical analysis and identify findings.
· Published this work as first author to *CHI 2016.*

Application of Time-anchored Peer Comments in Online Learning. 2014 - 2016

· Goal is to enhance experience of online learners and instructors by applying and analyzing time-anchored comments.

My Work

· Interviewed online learners and instructors in experiments.
· Statistically analyzed the features of time-anchored comments under different experimental conditions.
· Published this work and presented this paper in *CHI 2015.*

Using Brain Sensing Techniques on Evaluating Design and Usability. 2013 - 2016

· Goal is to achieve elaborate usability testing and better HCI design by analyzing users' EEG signals.

My Work

· Conducted research literature survey and experiment to collect participants' EEG signals.
· Applied EEGLAB and BCILAB to process EEG signal for offline and online analysis.
· Applied statistical analysis to compare different EEG patterns under each experimental conditions.
· Assisted paper submissions to *CHI 2014* and *IEEE TNSRE 2015.*

Sleep Monitoring System & Application 2012 - 2013

· Goal is to develop sleep monitoring system based on eye movement signals (Electrooculography, EOG) detection and to explore effect and feasibility of its applications on light control.

My Work

· Surveyed research literature regarding how to enhance sleep quality by controlling illumination in environments.
· Participated in designing of sleep-stage sensitive light system.
· Assisted paper submissions to *PhyCS 2014* and *IEEE Trans. Instrum. Meas. 2015.*

ACTIVITIES & WORK EXPERIENCE

Volunteer Tutor of Social Welfare Organization Assisting Teenage School Drop-outs
Industrial Technology Research Institute of Taiwan 2013 - 2014
Technical Advisor of The Delight of Chinese Character Exhibition 2013 2013

SKILLS

Programming	C, C++, Android, Arduino, Java, Kinect SDK, LaTeX, OpenNI, Python
Device & Software	Emotiv, The Eye Tribe, JMP, Neuroscan and Presentation
Languages	Chinese: Native; English: Adequate.