Updated January 16, 2018

Jia-Kai Chou, Ph.D.

https://jjkai.github.io
https://www.linkedin.com/in/jjkai/
Phone: +1 626-566-5381
email: jiakai.chou@gmail.com

Summary

I design and implement visualizations and interactive systems to support effective data exploration and analytics. To assess the effectiveness of the visualizations and systems that I create, I employ user-centered design principles for both quantitative and qualitative evaluation. My work involves close collaboration with domain experts and helps address research questions in their fields. I also focus on the privacy preserving aspect of user information while sharing, processing, and gaining insights from the data.

Skills

UX Research: Controlled user study design, Quantitative analysis (within-subjects, between-subjects and mixed design and analysis: ANOVA, t-test, error correction, etc.), Qualitative analysis (think-aloud, expert interviews), Survey/Questionnaire design (Qualtrics), Usability study, Complete/incomplete block design and analysis, Counter-balancing (Latin Square)
Web Development: Javascript, Node.js, Express, D3.js, CSS
Programming Experience: Python (Pandas, NumPy, scikit-learn), R, Matlab, C/C++, SQL
Other: OpenGL, Qt, LaTex, Git, TensorFlow

Employment & Experience

Jan. 2015 - Present
Post-Doctoral Researcher at University of California, Davis
Supervised more than 10 student researchers, including 5 Ph.D. students and 4 Master's students, in various research projects. Conduct research in designing and developing visual approaches and systems for supporting effective data analysis. Primary topics include:
- Privacy aware visualization design.
- Explanatory visualization & visualization for storytelling.
- Visual analytics system and interface design.

Oct. 2013 - Nov. 2014
Assistant IT Coordinator (Alternative Military Service) at Department of Information Technology, Taipei City Government
Coordinated with FISU's IT&C consultant for planning a $1-billion NTD budget on IT&C equipment and software systems for 2017 Taipei Universiade.

Feb. 2012 - Oct. 2012
Visiting Student at University of California, Davis
Studied the performance of audio-augmented visualization.

Summer 2010
Summer Intern at Trend Micro, Inc.
Integrated multiple visualization toolkits for network user behavior analysis.

Sep. 2007 - Jul. 2013
Graduate Student Research Assistant at National Taiwan University of Science and Technology
Designed algorithms and developed systems for multimedia applications:
- Interactive systems for simulating facial features and hairstyle swapping in images.
- Privacy aware image, video, and volumetric data storage and processing.
- Visual analysis of time-varying network data.

Education

Jul. 2013 Ph.D., Information Management | Advisor: Prof. Chuan-Kai Yang
National Taiwan University of Science and Technology
Dissertation: Privacy Preserving Multimedia Data Processing

Jul. 2009 M.S., Information Management | Advisor: Prof. Chuan-Kai Yang
National Taiwan University of Science and Technology
Thesis: Virtual Haircut and Hairstyle Cloning

Jul. 2007 B.S., Information Management
National Taiwan University of Science and Technology

Honors & Awards

2017 Winner of PacificVis 2017 Visual Storytelling Contest

2016 Honorable Mention Paper Award, Siggraph Asia 2016 Symposium on Visualization

2015 Winner of Originality in IEEE VGTC VPG International Data-Visualization Contest

Selected Publications

- Xumeng Wang, **Jia-Kai Chou**, Wei Chen, Huihua Guan, Wenlong Chen, Tianyi Lao, and Kwan-Liu Ma. A Utility-aware Visual Approach for Anonymizing Multi-attribute Tabular Data. IEEE Transactions on Visualization and Computer Graphics (in Proceedings of IEEE VAST 2017), 24(1):351-360, 2018
- Maksim Gomov, **Jia-Kai Chou**, Jianping Kelvin Li, Soman Sen, Kiho Cho, Nam Tran, and Kwan-Liu Ma. Aiding Infection Analysis and Diagnosis Through Temporally-Contextualized Matrix Representations. IEEE VIS 2017 Workshop on Visual Analytics in Healthcare (VAHC 2017)
- **Jia-Kai Chou**, Chris Bryan, and Kwan-Liu Ma. Privacy Preserving Visualization for Social Network Data with Ontology Information. In Proceedings of 2017 IEEE Pacific Visualization Symposium
- Takanori Fujiwara, **Jia-Kai Chou**, Andrew M McCullough, Charan Ranganath, and Kwan-Liu Ma. A Visual Analytics System for Brain Functional Connectivity Comparison across Individuals, Groups, and Time Points. In Proceedings of 2017 IEEE Pacific Visualization Symposium
- **Jia-Kai Chou**, Yang Wang, and Kwan-Liu Ma. Privacy Preserving Event Sequence Data Visualization using a Sankey Diagram-like Representation. ACM SIGGRAPH ASIA 2016 Symposium on Visualization (Best Paper Honorable Mention Award)
- **Jia-Kai Chou** and Chuan-Kai Yang. Obfuscated Volume Rendering. The Visual Computer 32(12):1593-1604, 2016
- **Jia-Kai Chou**, Chuan-Kai Yang, and Hsing-Ching Chang. Encryption Domain Content-based Image Retrieval and Convolution through a Block-based Transformation Algorithm. Multimedia Tools and Applications 75(21):13805-13832, 2016
- Chuan Wang, **Jia-Kai Chou**, Kwan-Liu Ma, Arpad Karsai, Gang-Yu Liu, Ying X. Liu, Evgeny Ogorodnik, and Victoria Tran. An Interactive Visual Analysis Tool for Cellular Behavior Studies using Large Collections of Microscopy Videos. 2016 IEEE International Conference on Multimedia Big Data