Jia-Kai Chou, Ph.D.

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Summary

I design interactive systems that incorporate both data science and visualization capabilities to perform effective data analytics. The systems I build allow domain experts to derive new insights from data and convey findings more efficiently. I am looking for opportunities to employ my knowledge to help industrial practitioners gain better understanding of their data.

Skills & Expertise

Data Science & Visualization: Python (Pandas, NumPy, scikit-learn), TensorFlow, R, SQL, D3.js, ggplot2, Shiny
UX: Experiment Design, Quantitative analysis (Hypothesis testing), Qualitative analysis
Web: Javascript, Node.js, Express.js, D3.js, CSS
Programming: Python, Matlab, C/C++, OpenGL, Qt, Git

Employment & Experience

Post-Doctoral Researcher, Dept. of CS, University of California, Davis — Jan. 2015 - Dec. 2017

Supervised more than 10 student researchers and published more than 10 papers. Conducted research spans the fields of information visualization and visual analytics:

- Introduced novel visualization techniques for performing event sequence analysis.
- Created visual interfaces to handle privacy concerns in multiple types of data, such as event sequence, social network, and tabular data. *Development environment: Node.js, D3.js, Python.*
- Incorporated data mining and statistical algorithms to interactive systems for enabling domain experts, such as neuroscientists and clinicians, to analyze their data at scale. *Development environment: Python, R, TensorFlow.*
- Designed user studies and performed statistical analysis on the results using *R*.

Assistant IT Coordinator, Dept. of IT, Taipei City Government, Taiwan — Oct. 2013 - Nov. 2014

Planned a $1-billion NTD budget on IT equipment and software systems for 2017 Taipei Universiade.

Visiting Student, Dept. of CS, University of California, Davis — Feb. 2012 - Oct. 2012

Developed an interactive system augmented with text-to-speech audio for analyzing the temporal dynamics of social interactions. *Development environment: Qt, OpenGL, C++.*

Summer Intern, Trend Micro, Inc., Taipei, Taiwan — Summer 2010

Integrated multiple visualization toolkits for network user behavior analysis.

Graduate Student Researcher, Dept. of Information Management, National Taiwan University of Science and Technology — Sep. 2007 - Jul. 2013

Implemented algorithms and systems for multimedia applications:

- Interactive systems for simulating facial features and hairstyle swapping in images. *Development environment: Visual Studio, C++, and Matlab.*
- Privacy aware image, video, and volumetric data storage and processing. *Development environment: Qt, C++, Matlab, GLSL.*
- Visual analysis of time-varying social network data. *Development environment: Qt, C++, MS SQL.*

Education

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

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

Honors & Awards

Winner of PacificVis 2017 Visual Storytelling Contest

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

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

Publications

I have authored and co-authored more than 15 papers on information visualization, human computer interaction, and multimedia systems. Titles and their summaries are available upon request.