Pei-Yao Hung

User Experience Researcher · Designer · Prototyper
3438 North Quadrangle, 105 South State Street, Ann Arbor, MI 48109
+1 (734) 926-5082 | peiyaoh@umich.edu | peiyaoh.people.si.umich.edu

Summary

- Methods: Affinity Wall, Application Log Analysis, Contextual Inquiry, Co-Design, Field Observation, Heuristics Evaluation, Participatory Design, Semi-structured Interview, Survey, Usability Testing
- Skills: JavaScript, React, NodeJS, Python, R, PHP, SQL, NoSQL (MongoDB), HTML, CSS, Qualtrics, Drupal, Axure
- Collaborators: designers, developers, occupational therapists, public health researchers, physicians, and patients

Research Oriented Work Experience

Supporting Informal Healthcare Teams at Home through Patient-Generated Data
US

Research Assistant, School of Information, University of Michigan *Jan. 2015 - Present*

- Conduct **contextual inquiry** and **co-design** activities with patients with a neurological impairment, caregivers, and clinicians, applied **themantic analysis** to devise design requirements for sensor-based technological support.
- Develop a board-game inspired **web application** for specifying data sharing policies, evaluated it through **usability testing** (N=27), and demonstrated its learnability and usability over a standard interface using statistical tests (R).

Should I Screen? Designing a Multilingual Online Lung Cancer Screening Decision Aid
US

Research Assistant and Developer, Department of Epidemiology, School of Public Health, University of Michigan *Jul. 2017 - Present*

- Oversee a **participatory design** study (N=17) and assist with a **focus group** study (N=21) with African-Americans and Latinx to identify important design dimensions to improve the inclusivity of a lung cancer screening decision aid.
- Collaborate with public health researchers and physicians to develop a multilingual **online decision aid**, ShouldIScreen.com (2.6K weekly visitors worldwide), for patients to explore critical cancer screening decisions.

Estimating Programmers' Expertise through Browsing History Analysis
US

Research Assistant, School of Information, University of Michigan *2013 - 2014*

- **Interviewed** 26 programmers to understand how expertise affected their information-seeking behaviors.
- Performed **machine classification** of browsing history (using scikit-learn) and **expertise prediction** through regression (using R) to support knowledge-based community interactions (e.g., Q&A).

TraceViz: Facilitating Testing of Context-Aware Application through Sensor Data
US

Research Assistant, School of Information, University of Michigan *2011 - 2012*

- Created and evaluated a **GPS data management software** for developers to efficiently find desirable data for testing.
- Developed an **Android app** that provided location-based advertisement to demonstrate TraceViz's value for developers.

Enjoyable Training to Improve Visual-Motor Integration Ability for Children with Autism
Taiwan

Research Assistant, National Taiwan University *2007 - 2008*

- Conducted **field observation** of occupational therapy sessions to informed the design of a **paper cutting game** to train visual-motor integration abilities and a **monitoring software** for therapists to effectively evaluate children's progress.
- Collaborated with occupational therapists to rolled out a month-long **field deployment** with 7 preschool children with autism who showed improvement and responded positively to the game.

Education

University of Michigan, Ann Arbor
US

MS & PhD in Information Science, with focus on Human-Computer Interaction *2010 - 2020 (anticipated)*

- PhD Thesis: System Design for Supporting Care Team through Patient-Generated Data. Advisor: Dr. Mark Ackerman.

National Taiwan University *Taiwan*

BS & MS in Computer Science and Information Engineering *2002 - 2008*

- MS Thesis: A Computer Cutting Game to Train Hand Function for Children. Advisor: Dr. Hao-Hua Chu.

Recent Publications

Designing a Web-based Decision Aid for Individuals to Consider Lung Cancer Screening *PervasiveHealth*

Hung, Pei-Yao, Yan Kwan Lau, Mark S. Ackerman, Rafael Meza *2019*

Supporting Collaboratively Constructed Independence: A Study of Spinal Cord Injury *CSCW*

Büyüktür, Ayse G., **Pei-Yao Hung**, Mark S. Ackerman, Mark W. Newman *2018*

Selected Presentations

[Poster] Empowering Patients to Share Patient-Generated Data through a Grid-Based User Interface *US*

Privacy@Michigan - Celebrating International Data Privacy Day *01/30/2019*

[Demonstration] Sensible Care: using Internet of Things (IoT) data to support collaborative care with sensing and mobile technology *US*

State of Science conference - Facilitating Health Self-Management and Independence among Adolescents and Young Adults with Disabilities *10/19/2017*

[Seminar] Discount Expertise Metrics for Augmenting Community Interaction *Taiwan*

National Tsing Hua University Institute of Information Systems and Applications Seminar *07/16/2016*

Selected Mentorship & Teaching Experience

University of Michigan, Ann Arbor *US*

Team Mentor – A team with 5 master students *2015 - 2016*

- Guided the **user-centered design** process to propose a wearable application for pregnant woman.
- Provided **critique**, and polished **writing** and **presentation** flow that supports the team to be selected as the **student design competition finalists** at the premier **international conference of Human-Computer Interaction (CHI)**.

University of Michigan, Ann Arbor *US*

Graduate Student Instructor – Introduction to Information Studies *2015*

- Taught a 1.5 hours lecture in **Human-Computer Interaction** with 240 undergraduate, and graded response papers and visualization projects to improve students' **writing and visual presentations**.

University of Michigan, Ann Arbor *US*

Graduate Student Instructor – Networked computing: Storage, Communication and Processing *2014*

- Led weekly lab sessions (45 master students total) to examine important **programming and computing** concepts using **Python** and provided one on one instructions.

National Taiwan University *Taiwan*

Instructor – Adobe Flex/Flash/ActionScript Prototypting Crash Course *2009*

- Lectured 20+ students the fundamental concepts required for **rapid prototyping** using **Adobe Flex/Flash/ActionScript**.

Honors & Awards

2015, 2019	**Awarded,** Travel Grant, Rackham Graduate School, University of Michigan	*US*
2015, 2018-19	**Awarded,** Travel Grant, School of Information, University of Michigan	*US*
2013	**Awarded,** Research Grant, Rackham Graduate School	*US*
2010	**Runner-Up,** Mobile Apps Challenge, University of Michigan	*US*
2010	**Finalist,** iDesign Competition, University of Michigan Library	*US*