

# Pei-Yao Hung

USER EXPERIENCE RESEARCHER · DESIGNER · PROTOTYPER  
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## Summary

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- Methods: Affinity Wall, Application Log Analysis, Comparative 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, Figma
- Collaborators: designers, developers, occupational therapists, public health researchers, physicians, and patients

## Research Oriented Work Experience

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### 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 **thematic 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](http://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 inform 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 roll out a month-long **field deployment** with 7 preschool children with autism who showed improvement and responded positively to the game.

## Education

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### 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

BS & MS in Computer Science and Information Engineering

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

Taiwan

2002 - 2008

## 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 Prototyping 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