

# Pei-Yao Hung

RESEARCH DEVELOPER

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## Summary

- Experience (post-undergrad): 16+ years programming, 10+ years user experience (UX) research involving system building
- Skills: JavaScript, React/Angular/Vue/Next.js, Node.js, Python, PHP, SQL, NoSQL (MongoDB), HTML, CSS, R, Git (GitHub)
- Collaborators: installation artists, visual designers, occupational therapists, epidemiologists, pharmacists, applied mathematicians, physicians, caregivers, and patients

## Selected Work Experience (more)

### Software Development Lead

US

The Wearables In Reducing Risk and Enhancing Daily Lifestyle Center (WIRED-L), University of Michigan

May 2021 - Present

- Collaborate with CareEvolution, Inc and utilize its framework to develop a cross-platform **mobile app** with dashboards and just-in-time notifications using **Angular** for a clinical trial (N=600) funded by the American Heart Association.
- Develop a backend architecture on **Google Cloud Platform** using **Node.js** to support account management, study progress monitoring, **Fitbit** data retrieval, SMS scheduling and delivery (**Twilio**).
- Apply **agile** project management using **Airtable** to collaborate with designers, a developer, and a QA engineer.

### Technical Lead & Product Management

US

College of Engineering, University of Michigan

May 2021 - Aug. 2022

- Lead a team to develop an **online knowledge-sharing platform** using **Next.js** on **Google Cloud Platform** to connect Black, Indigenous, and People of Color (BIPOC) entrepreneurs in the field of Public Interest Technology.
- Mentor junior developers through curating learning materials, drafting templates, and **code review**.

### Software Developer & PhD Researcher (project)

US

School of Information, University of Michigan

Jan. 2015 - Apr. 2022

- Develop back-end API services using **Node.js/MongoDB** to perform data processing and access control that enable the creation of a family of privacy-aware data sharing applications to support care team collaboration.
- Develop a game inspired web app using **Javascript/HTML/CSS/React** for sharing **patient-generated health data**.
- Develop an **Android** mHealth solution with push notifications (**OneSignal**) for self-tracking to support chronic care.

### Software Developer & PhD Researcher (project)

US

School of Public Health, University of Michigan

Jul. 2017 - Aug. 2022

- Train epidemiologists to use **Git** to collaboratively develop a responsive multilingual **decision aid**, [ShouldIScreen.com](https://ShouldIScreen.com) (~9K visits/week) using **React/PHP/MySQL/Apache**, for patients to explore critical **cancer screening decisions**.
- Apply **A/B testing** for design refinement, and mentor an undergrad developer to realize user-friendly features.

### Data Scientist & PhD Researcher (project)

US

School of Information, University of Michigan

2013 - 2014

- Orchestrated a web-scraping system to extract programming resources' content (**Python/BeautifulSoup**), and calculated **tf/idf** to classify programmers' browsing history for estimating their levels of expertise (**Pandas/scikit-learn**).

## Education

2012, 2022 **MS & PhD in Information Science (Human-Computer Interaction)**, University of Michigan, Ann Arbor

US

2006, 2008 **BS & MS in Computer Science and Information Engineering**, National Taiwan University

Taiwan

## Selected Mentorship & Teaching Experience

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### University of Michigan, Ann Arbor

US

Graduate Student Instructor – User Interface Development

2020

- Ensured the smooth operation of a remote Computer Science course with 360+ students across different time zones.
- Designed homework for students to apply User Interface Development concepts using **HTML/CSS/Javascript**.

### University of Michigan, Ann Arbor

US

Graduate Student Instructor – Programming I (Python)

2019

- Led weekly lab sessions (40+ master students) and office hours to examine important **Python** programming concepts.
- Participated in a panel on problem-solving to share and discuss good **programming practices**.

### 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**.

### National Taiwan University

Taiwan

Instructor – Object Oriented Programming using C#

Winter, 2009

- Developed syllabus, wrote lectures, created projects, presented, and graded, successfully facilitated understanding of programming, resulting in 5 students with no technology background developing a simple calculator with graphic user interface in ten days using **C#**.

## Selected Presentations

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### Mainstreaming the embodied knowledge and lived experiences of BIPOC PIT Practitioners

US

Public Interest Technology Knowledge Network Kick-Off

11/18/2021

### [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

## Recent Publications

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### Data Checkers: A Grid-Based UI for Managing Patient-Generated Data Sharing to Support Collaborative Self-Care

Frontiers

Hung, Pei-Yao, Drew Canada, Michelle A. Meade, and Mark S. Ackerman

2022

### 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

## Certification & Training

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2020 **Inferential Statistical Analysis with Python**, University of Michigan, Ann Arbor

Coursera

2020 **Understanding and Visualizing Data with Python**, University of Michigan, Ann Arbor

Coursera

2017 **Preparing Future Faculty Seminar**, University of Michigan, Ann Arbor

US

2016 **Front-End JavaScript Frameworks: AngularJS**, The Hong Kong University of Science and Technology

Coursera

2013 **Introduction to Data Science**, University of Washington

Coursera