

Joanne (Chih-An) Tsai

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EDUCATION

Carnegie Mellon University

Aug 2020 – Dec 2023 (projected)

B.S. in Information Systems

Minors: Human-Computer Interaction,
Business Analytics and Optimization

GPA: 3.87, Dean's List with High Honors

Relevant Coursework:

Mobile App Design & Dev. (in progress)

Web Application Development

Human AI Interaction

Prin. of Software System Construction

Principles of Imperative Computation

Database Design & Development

SKILLS

Programming Languages

Java, TypeScript, JavaScript, Python,
Swift, HTML/CSS, C, C++, Ruby

Frameworks

JQuery, Ruby on Rails, ReactJS, AngularJS,
SwiftUI, UIKit, Bootstrap

Databases

PostgreSQL, MySQL, MongoDB

OTHER EXPERIENCE

CMU Women in Information Systems

Lead Mentor (2022-2023)

CMU Business Technology Group

Software Developer (2021-2022)

EXPERIENCE

Google, Software Engineering Intern, Seattle, WA

May – Aug 2023

- Re-designed and developed UI and data layers that are integrated across Google iOS apps such as Gmail, Maps, and Photos, using Swift and SwiftUI
- Applied the Redux Design Pattern to develop a full-stack prototype, cutting the original codebase by 75% (estimated)
- Collaborated with product managers and UX designers to integrate up-to-date internal design guidelines and refine user flows

Carnegie Mellon University, Teaching Assistant, Pittsburgh, PA

Aug – Dec 2022

- Mentored 15 students on database design, SQL, and MongoDB queries during weekly labs
- Assisted in refining user stories, conceptual models and functional dependencies, and debugging PostgreSQL queries during team projects

Google, Student Training in Engineering Program Intern, Taipei, Taiwan

May – Aug 2022

- Refactored and optimized a developer tool for Google Nest that is utilized across multiple camera products in C++
- Surveyed and integrated an open-source library API for video processing
- Performed software device testing and contributed to unit testing

CMU Human-Computer Interaction Institute, Research Assistant, Pittsburgh, PA

Feb – May 2022

- Migrated, visualized, and analyzed large-scale user data tables (1M+ records) using AWS, MySQL, BigQuery, and Stata
- Collaborated with online therapy platform 7 Cups to evaluate impact of online therapy on mental health outcomes through machine learning

PROJECTS

Flight Data Visualization Framework

Apr – May 2023

- Crafted a black-box framework with 3 data and 3 visualization API plugins to process and display real-time flight data using Java and TypeScript, including an interactive GUI
- Performed domain analysis and created UML diagrams to select data sources and visual representations and to ensure extensibility and flexibility

Teedy Open Source Feature Development

Sep – Oct 2022

- Co-programmed 2 new features across front-end UI, data transmission, and back-end services using AngularJS, REST API, Java, and SQL for Teedy open source codebase
- Implemented CI/CD pipeline with GitHub Actions for efficient version control

Great Pittsburgh Baking Outlet

Mar – May 2022

- Analyzed business goals of a baking outlet, created user stories, and crafted hi-fi wireframes for 3 distinct user groups
- Developed an e-commerce web application with Ruby on Rails following the MVC pattern and refined the front-end UI using Materialize CSS
- Ensured robustness with full-coverage unit tests and Cucumber tests