

Chih-Hsing (Hathaway) Chen

(202) 391-1719 | hathawayco80119@vt.edu | [Linkedin](#) | Website: hathaway.me | Falls Church, VA

EDUCATION

Virginia Tech

Master of Engineering in Computer Science

May 2025
Falls Church, VA

- Courses: Web Application Development, Intermediate Data Structures and Algorithm Analysis, Information Visualization

Taipei Medical University

B.S. in Nutrition and Health Sciences | GPA: 3.75

Sept. 2021
Taipei, Taiwan

- CS Courses: Object Oriented Programming in Java, Medical Deep Learning Python Practice, Linear Algebra

SKILLS

Programming Languages: Python, Java, C++, HTML, CSS, JavaScript, TypeScript, Dart, SQL

Frameworks: React.js, Node.js, Express.js, Flutter, Flask

Databases: Firebase, SQLite, MySQL, PostgreSQL

Other: AWS, Git, GitHub, Docker, Machine Learning, TensorFlow, Keras

RELEVANT EXPERIENCE

Academia Sinica | *Research Center for Information Technology Innovation*
Laboratory Software Development Assistant

Jun. 2021 - Aug. 2023
Taipei, Taiwan

Project: Automatic Adhesive Capsulitis Assessment Systems

Advisor: [Prof. Yu Tsao](#)

- Modified recognition machine learning models to predict the severity of adhesive capsulitis patients
- Transformed subjective SPADI value, a self-report measure to assess the patients' shoulder disability, into objective and visualized the results
- Improved classification accuracy from 43% to 75%

Taipei Municipal Wanfang Hospital

Dietetics Intern

Jan. 2020 - May 2020
Taipei, Taiwan

- Designed diet-control plans for patients and followed their progress for 4 months
- Delivered 18 talks on diabetes and hypertension prevention

PROJECTS / AWARDS

Bookstore Web Development (*HTML, CSS, React, TypeScript, Servlets, REST API, JSP, Figma*) Mar. 2023 - Jul. 2023

- Orchestrated responsive web pages using HTML, CSS, JavaScript, and React, leveraging the powerful component-based architecture of React to create highly dynamic and interactive user experiences
- Executed an SQL database schema for managing inventory, 47 user accounts, and 105 transactions
- Constructed server-side logic using Servlets and JSP to handle user requests and responses
- Achieved a 20% increase in user engagement and maintained a 99.9% application uptime

ChatStream: Cross-Platform Real-Time Messaging App (*Dart, Flutter, Firebase*)

Fall 2023

- Created custom API routes using Firebase Cloud Functions and stored user information with Cloud Firestore
- Integrated FirebaseAuth for secure user sign-in and sign-up processes
- Employed Stream in Dart for real-time updates of chat conversations, eliminating the need for manual app refreshes

Neural Networks Based COVID Prediction Model (*Python, SQLite*) (2020 ITRI Competition 3rd Prize) Nov. 2020

- Retrieved flight information, location and weekly COVID numbers from Taiwan CDC website by Python and SQLite
- Applied different combinations of linear filters in OpenCV to up-sampling COVID CXRs

PUBLICATION / VOLUNTEER

Chih-Hsing Chen, Kai-Chun Liu, Ting-Yang Lu, Chih-Ya Chang, Chia-Tai Chan, Yu Tsao, "[Wearable-based Pain Assessment in Patients with Adhesive Capsulitis Using Machine Learning](#)", *2023 11th International IEEE/EMBS Conference on Neural Engineering (NER)*, Baltimore, USA, 2023, pp. 1-4, April, 2023

Volunteer, Social Medical Service First Group, *Taipei Medical University*

Feb. 2019

- Implemented disease-prevention initiatives and healthcare programs
- Collaborated with 8 local communities to ensure that their daily necessities were addressed accurately