Chi-Wei Hu

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EDUCATION

MS in Computer Science
University of Southern California (USC)   LA, United State | Sep. 2024-

MS in Biochemical Sciences
National Taiwan University (NTU)   Taipei, Taiwan | Sep.2020-July 2022
- GPA: 3.88/4.3
- Thesis: Engineering of A Multi-cell Type Immunotherapy Using synNotch-driven Macrophages

BS in Life Sciences
National Cheng Kung University (NCKU)   Tainan, Taiwan | Sep. 2017-July 2020

CS and Math-related Courses:
- Data Structure; Artificial Intelligence   NCKU | 2024
- Web Development bootcamp   Udemy | 2024
- Introduction to Bioinformatics; Introduction and Practice of Bio-databases (PHP, MySQL); Calculus; Biostatistics   NCKU | 2017-2020

PROFESSIONAL EXPERIENCE

Software Engineer, Department of Computer-Integrated Manufacturing (CIM)
Strong Electro-Mechanical Co., Ltd.   Tainan, Taiwan | Sep. 2022-May 2024
- Developed a Standalone Automation Process for etching machines in panel factory using **C#**, utilizing **SEMI Equipment Communication Standard (SECS) protocol** for device communication and improving process efficiency by **20%**.
- Built a monitoring system for the exposure machine in a panel factory using **C++**, facilitating communication with **Arduino or DAQ devices** and database integration in MySQL reducing downtime by **15%**.

Intern, Department of Computer-Integrated Manufacturing (CIM)   Jan. 2018, July-Aug. 2018
Strong Electro-Mechanical Co., Ltd.
- Gained experience in the development of a weighing software system for large-scale vehicles in **C++**, integrating data with **MySQL**.

Projects

Personal Portfolio Website – Independent Project
- Built a personal portfolio website designed with **HTML and CSS**, using **flask** in **python** as backend and **MongoDB** as database to store information. (Link) (Github)

Movie Check Mobile App – Independent Project (Link)
- Built a customized movie tracking app designed with **SwiftUI**, handling the **API** to fetch the latest information and media content of TV shows, and using **JavaScripts** to connect to **MySQL** database for storing and tracking viewing habits.

SKILLS

Languages: C#, C++, Python
Tools: MySQL, MongoDB, RS-232/RS-485 Communication protocol, SEMI Equipment Communication Standard (SECS) Communication protocol, HTML, css, SwiftUI
Framework: JavaScripts, Flask

RESEARCH EXPERIENCE

Thesis: Engineering of a Multi-cell Type Immunotherapy using synNotch-driven macrophages | Advisor: Prof. Steven Lin   Apr. 2022-June 2023
- Utilized **Lenti-transfection** to introduce the synNotch tool into macrophages and T cells, thoroughly assessing its functionality via **flow cytometry**
- Conducted **Ni-NTA protein purification** for cytotoxic antibodies and evaluated their cytotoxic ability against solid tumors by **ADCC cytotoxicity assay**. Investigate the potential impact on T and NK cells by **flow cytometry**.

Academia Sinica   **Taipei, Taiwan**
Research Intern, Institute of Biological Chemistry | Advisor: Prof. Steven Lin   July 2019-Aug. 2019
- Develop tools for editing mitochondrial DNA using **CRISPR gene editing technology**