

MING-CHIEH, HU

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Brief Introduction

I have an unorthodox academic background, transitioning from electronics engineering to architectural design, and eventually returning to a career in software engineering. Through this journey, I realized that programming is just like any other creative process, where the program itself becomes my creation. Now I'm pursuing a master's degree in geomatics at TU Delft, aiming to pivot my career towards a geospatial software specialist, combining my love for the built environment with my passion for software engineering.

Education

Delft University of Technology (TU Delft)

MSc Geomatics, Faculty of Architecture

Delft, Netherlands

Sep 2024 — present

National Yang Ming Chiao Tung University (NYCU)

M.Arch I program in Institute of Architecture (withdrew)

Hsinchu, Taiwan

Sep 2021 — Jun 2022

National Yang Ming Chiao Tung University (NYCU)

B.S. in Electronics Engineering

Innovative Technology and Art Program

Hsinchu, Taiwan

Sep 2017 — Jun 2021

Sep 2019 — Jun 2021

Academic Projects

Solar Decathlon Europe 21/22

Student Electrical Engineer, team TDIS

Wuppertal, Germany

Sep 2020 – Jul 2022

- Designed and implemented a complete power plan for the two story house demonstration unit, integrating photovoltaic panels, inverters, batteries, and home appliances. Using parametric modeling techniques such as Grasshopper 3D.
- Collaborated with numerous mechanical manufacturers and a group of professional electricians on the site to complete the integration of electrical work with the construction of the house. Resulted in superior rankings in energy performance and house functionality.
- Led the transportation research of Taipei and innovative design for urban mobility. Engaged in in-depth discussions with the juries, articulating our design and strategies.
- Awarded 1st Prize for architecture, 3rd Prize for innovation among 18 international teams.

Artificial Intelligence and Multimedia Laboratory, NYCU

Lab Member

Hsinchu, Taiwan

Sep 2019 – Jun 2020

- Enhanced the voice conversion results of a Variational Auto Encoder by integrating MOSNet and subsequently yielded a new loss metric, resulting in a significant improvement in the ratings of the converted voice.
- Modified a neural network using the MFCC algorithm to incorporate a WORLD vocoder, making it able to perform back propagation.

Computational Aesthetics

Coursework Project

Hsinchu, Taiwan

Sep 2020 – Jan 2021

- Conducted an experiment to explore what is meant by aesthetics in a machine: using Creatism to generate images, and NIMA to analyze the aesthetics.
- Arranged a musical visual performance with Touchdesigner particle systems and multiscroll attractor algorithms.

Work Experience

TORIII Technology Corporation

Project Manager / Full Stack Developer / UI Designer

Taipei, Taiwan

Sep 2022 – Nov 2023

- Planned, designed, and developed a customer relationship management system that served thousands of users on LINE, Taiwan's most widely used social platform. Including features such as monthly charges, copy-trade automation, and a performance demonstration board, using Figma, Node.js, React, MongoDB, GCP, and LINE LIFF.
- Collaborated with Aiii, an AI marketing company, to develop an NFT membership management system and a centralized wallet that operates on both the Ethereum and Polygon chains within the LINE framework.
- Programmed and deployed the 'Wonderland' NFT series on Polygon chain, organized multiple airdrop events using Solidity, JavaScript, React, and Python, and collaborated with SETTV, a renowned television company in Taiwan.
- Conducted an in-depth investigation into the performance of various deep learning models applied to cryptocurrency trading using PyTorch. Such as transformers, LSTM, and ResNet, and analyzed their effectiveness in optimizing trading strategies.
- Planned and coordinated a customized development of a ticketing platform, working with designers, front-end and back-end engineers in a project manager role.

Association of Humanitarian Architecture

Spring Intern

Hsinchu, Taiwan

Mar 2020 – Jul 2021

- Led the lighting design and electrical wiring for 2 interior design projects and 2 installation art projects using Rhinoceros and Grasshopper 3D.
- Designed and led five workshops promoting domestic wood in cooperation with the Forestry and Nature Conservation Agency of Taiwan.

Other Experience

Delft Taiwanese Student Organization (DTSO), TU Delft

Chief Designer

Delft, Netherlands

Sep 2024 – now

- Led the planning and execution of Taiwanese cultural events, attracting 100+ participants and fostering cross-cultural engagement.
- Developed branding and promotional materials for Taiwanese cultural events, with cohesive visual identity.

Talkbar, NYCU

Chief Marketing Officer

Hsinchu, Taiwan

Sep 2019 – Sep 2021

- Revamped the conventional speech format, fostering increased audience interaction and offering the opportunity for attendees to partake in a dinner date with the speaker.
- Organized multiple celebrity speeches and corresponding promotional events on campus with thousands of attendees.

Project Stranger, NYCU

Co-founder

Hsinchu, Taiwan

Sep 2020 – Sep 2021

- Led and organized an open event, inviting strangers on the campus for a one-on-one dinner date to encourage conversations with strangers.
- Developed a chatbot to convey the core idea of the event and to further immerse participants in the special experience.

Skills

- **Relevant Coursework:** Algorithms, Computer Organization, Data Structures, OOP, Intro to Machine Learning, Electronics Lab, Embedded System Lab, Calculus I-II, Differential Equations, Probability and Statistics, Linear Algebra, Computational Aesthetics, Design Computation and Human-Machine Interface, Sensing Technologies, Geographical Information Systems and Cartography, Positioning and Location Awareness, Geo Database Management Systems, Digital Terrain Modelling
- **Programming:** C, C++, JavaScript, Python, HTML, CSS, SQL
- **Frameworks:** LangChain, PyTorch, Node.js, Express, React, CI/CD, GCP, K8s, MongoDB, PostgreSQL
- **Software:** QGIS, FME, Rhinoceros 3D, Grasshopper 3D, Photoshop, Illustrator, Indesign, Figma, Git
- **TOEFL:** 102/120 (R: 29, L: 28, S: 22, W: 23)