

HSIAO-TING HUANG

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EDUCATION

University of Washington

Seattle, WA

M.S in Electrical and Computer Engineering

Sep 2021 – Expected Dec 2022

- **Courses:** Computer Vision, Deep Learning for Big Visual Data, Self-driving Car

National Cheng Kung University

Tainan, Taiwan

M.S. in Computer and Communication Engineering, **GPA 4.1/4.3**

Feb 2018 – Aug 2021

- **Honor:** A full scholarship and internship as a visiting research student to LARC (SMU-CMU Joint Lab), Singapore
- **Award:** KDD Cup 2018. Ranking 45/662 (Top 7% worldwide) [[URL](#)]
- **Teaching Assistant:** The course “Introduction to Computer Science” and the course “Practical Applications of Artificial Intelligence”

B.S. in Computer Science and Information Engineering, Overall GPA 3.1/4; Last 60 GPA 3.2/4

Sep 2013 – Jun 2017

- **Courses:** Algorithm, Data Structure, Operating System, Programming Language, Theory of Computation, Linear Algebra, Probability and Statistics, Discrete Mathematics, Engineering Mathematics, Introduction to Digital System, Compiler Construction

SKILLS

Programming Languages: Python, Java, PHP, JavaScript, SQL, MATLAB, C, C++, C#, MIPS

Software Tools: TensorFlow, PyTorch, Keras, OpenCV, MongoDB, MySQL, Django, Hadoop, Docker, Apache Hive, Spark, Android, ROS

WORK EXPERIENCE

MediaTek Inc. | Software Engineer Intern (C/C++, Python, HTML, JavaScript, CSS, Django, MySQL)

Hsinchu, Taiwan

- Developed auto log parser and webs and reduced manpower for mobile communication analysis by 20 times Jul 2021 – Aug 2021
- Implemented scalable backend and helped users auto parsing their customized features through over 100,000+ log files
- Dealt technical problems with 5G solutions, using MACE to extract the required 20+ features from 20+ EPS Fullback logs

Ainimal | Cofounder/Machine Learning Model Developer (Python, Natural Language Processing)

Tainan, Taiwan

- An innovative startup project of an AI dating app using NLP algorithms to find potential matches [[URL](#)] Mar 2018- Aug 2018
- Independently developed sentiment analysis model through users’ communication style to recommend suitable dates to users
- Used jieba for Chinese hyphenation; TF-IDF and vector notation for word frequency statistics; LinearSVC for extracting features
- **Award:** AUCC Entrepreneurship training camp selected team (2019)

RESEARCH EXPERIENCE

Living Analytics Research Center (SMU-CMU Joint Lab) | Research Engineer Intern (Machine learning, Urban planning)

Singapore

- **Project 1: Individual Trip Prediction on Multi-mode Transit System** Dec 2018 – Nov 2019
 1. The first model considering multi-mode transit, allowing users to predict multi systems’ passenger trips at the same time
 2. Outperformed state-of-the-art methods with 15% higher accuracy of predicting location and duration of a passenger’s next trip
 3. Used HDBSCAN with 8 spatial-temporal features for clustering similar pattern users
 4. Dealt with sparse individual passenger trajectories dataset by predicting transit mode and identifying trip regularity
- **Project 2: Travel Time Attributes and Route Preferences for MRT (RESTful API, ETL)** Aug 2018 – Dec 2018
 1. Targeted on recovering exact routes taken by commuters inside MRT not captured by the Automated Fare Collection system
 2. The first model to point out and fully utilize the fact that there are some trips inside MRT with only one practical route available
- **Publication:** “TRIPDECODER: Study Travel Time Attributes and Route Preferences of Metro Systems from Smart Card Data.” ACM/IMS Transactions on Data Science, July 21, 2021. [[URL](#)]

Knowledge and Information Discovery Lab | Research Assistant (Deep learning, Time series)

Tainan, Taiwan

- **Project 1: Air pollution real-time prediction** [[URL](#)] Jan 2018 – Aug 2018
 1. Designed a spatial-temporal model(LSTM+CNN+SVM) and beat the latest time series model, lowering MAE by 27%
 2. Built machine learning pipelines to predict the AQI of London and Beijing within next 48 hours; ranked top 7% on KDD CUP 2018
- **Project 2: QQAQ (QQ Air Quality)** [[URL](#)] (Java, Android, HTML5, JavaScript, MySQL Flask, D3.js) Aug 2017 – Jan 2018
 1. Developed mobile application and webpages for users to check the real-time air quality easily
 2. Customized alert notification settings for users if they choose to be informed of any bad air quality and weather
 3. Built up a large-scale database on Mongoddb and optimized the data infrastructure to ensure the high quality of the big data

SELECTED PROJECTS

Senior project: Crime Combatant [[URL](#)]

- A crime prevention system. Crime scenes are marked on a map; on entering the location, users are notified and connected to law enforcement to reduce crime rates. Crime scenes are input using the Smallest Enclosing Circle algorithm and displayed on the app.

Course project: Pandora Music Box [[URL](#)]

- Launched by sensing light and playing different music according to the temperature. Used Microprocessor Principles and msp430 (mixed-signal microcontroller) to program assembly language and used an interrupt handler, PWM, and ADC operation.