

Kuo-Hao (Peter) Lai

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EDUCATION

Virginia Polytechnic Institute and State University (Virginia Tech)

Falls Church, VA

Master of Engineering in Computer Science (GPA:3.76/4.0)

Aug. 2021 - May 2023

- **Coursework:** Data Structure and Algorithm, Software Engineering, Mobile Application, Web Application Development, Advanced Machine Learning

National Taiwan University (NTU)

Taipei, Taiwan

B.S. in Agriculture Economics with 2nd Field in Data Science and Social Inquiry

Sept. 2015 - June 2019

SKILLS

Programming Language: Python, Java, Kotlin, JavaScript, HTML, CSS, MATLAB, R

Framework/ Tool: React.js, Vue.js, Flask, FastAPI, PySpark, Hadoop, TensorFlow, Tableau, Git, Android

Database: MongoDB, MySQL, SQLite

PROFESSIONAL EXPERIENCE

Software Engineer, Intern

Seattle, WA

Aeyesafe Inc.

May 2022 - Aug. 2022

- Created Authentication System using React, MongoDB, and FastAPI with JWT authentication
- Implemented RESTful APIs to retrieve and store users' sensors data
- Built ETL framework using PySpark for streaming data processing

Graduate Research Assistant

Falls Church, VA

Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, VA

Jan. 2022 - May 2022

- Built ML models with 80% accuracy to predict the drought index in order to research the drought issue
- Integrated diverse map layer with QGIS for spatial analysis

Research Assistant

Taipei, Taiwan

National Taiwan University

Mar. 2021 - July 2021

Project: Individual Human Mobility Pattern

- Estimated the telecom users' mobility by querying call records stored in MySQL with SQL

Project: Social network construction based on Tweets Related to MeToo Movement

- Tracked the volume trend about metoo movement that accused notables
- Used NLTK for sentiment analysis to analyze tweets data against or support celebrities

Data Analyst

Taipei, Taiwan

AgriWeather

Mar. 2021 - May 2021

- Designed time series anomaly detection algorithm to extract weather data anomalies
- Constructed a panel data regression model to predict crops production and weather condition

Data Analyst Intern, Department of Analysis and Service

Taipei, Taiwan

eLand Information Co., Ltd

Mar. 2019 - July 2019

- Utilized NLP techniques such as TF-IDF to extract keywords of news
- Developed a sourcing function to help customers combat fake news by finding the publishers' IDs
- Parsed public internet sentiments based on the volume of social media and positive/negative emotion ratio

PROJECTS

Dream Catcher Mobile Application | Android application, Kotlin, SQLite

Feb. 2022 - Mar. 2022

- Developed an Android APP that documents users' dreams and allows users to edit, share their dreams
- Built the DAO interface and implemented RESTful APIs allowing APP to access the SQLite database
- Optimized Android ViewModel with Android Lifecycle-aware components

River Crossing Puzzle | Java, GUI, MVC

Oct. 2021- Nov. 2021

- Constructed the game engine and implemented GUI with Swing components for the river application
- Built a TDD based river-crossing game, designed test cases and achieved 95 % coverage