Chien-Chou Wu

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EDUCATION

Master of Science in Artificial Intelligence
Saint Louis University • St Louis, MO • May 2022
Master of Science in Applied Mathematic
National Chiao Tung University • Hsinchu, Taiwan • Jul 2019
Bachelor of Science in Applied Mathematic
National Dong Hwa University • Hualien, Taiwan • Jul 2017

SKILLS

- Python (Pandas, NumPy, Scikit-learn, Keras, Seaborn)
- Tableau (Tables, Graphs, Map)
- SQL (MySQL)
- Microsoft Excel (VLOOKUP, Pivot Tables, Conditional Formatting)
- Machine Learning, Deep Learning, Agile, Time Series Forecasting

EXPERIENCE

InstaHub LLC   **Aug 2021 – May 2022**
Data Science Intern.   *Philadelphia, PA*
• Instrumental in researching, designing, implementing, and evaluating Machine Learning and Deep Learning for the Automatic lighting and heating waste forecast system from data logger.
• Using **Linear Regression, SVM, Random Forest, LSTM, XG-Boosting** in Scikit-Learn/Keras/TensorFlow to predict occupancy rate and temperature setpoint of a space.
• Improved data mining processes, leading to a 96% reduction in time required to infer insights from data used to develop lighting, heating waste and room occupancy.
• Built an easy-to-use Machine Learning standard Library for backend team.
• Work in an Agile way to orchestrate cross-functional projects for designing and testing new models.

Yun-Yang Fire Safety Equipment Co., Ltd   **May 2020 – Aug 2020**
Software Engineer Intern.   *Kaohsiung, Taiwan*
• Designed and executed server receiving Api calls from client; Send warnings if an abnormal connection is detected with Flask through Python.
• Enhanced the application's features to effectively fix the bugs and optimize the overall performance using PHP on Google Cloud Platform.
• Modified VB6 to optimize the fire safety system UI for better performance and features.

ACADEMIC PROJECTS

• Camelot: AI Environment for Interactive Narratives   **Jan 2022**
- Created a fully automated ecosystem of NPCs using Reinforcement Learning.
- Created multiple agents for each NPCs to conduct tasks and human behaviors.
- Trading, supply and demand, and happiness are established.
- Resource prices based on supply and demand are determined by AI.
- Environmental variability such as tax system are introduced to observe the effect on economy.
- Distribution of wealth, economy and happiness are studied.

• G-Research Crypto Forecasting   **Nov 2021**
- Visualized Cryptocurrency time series data and detected abnormal patterns in python.
- Conducted data cleaning, imputed missing values, created new features to improve model performance.
- Tested multiple regression models such as RNN, LSTM, and Extreme Gradient Boosting Machine, and performed hyper-parameter tuning to optimize the model predicting power in Python.

• YouTube Comment Sentiment Analysis   **Apr 2021**
- YouTube comment scraping via YouTube Data api.
- Data cleaning (remove emoji and punctuation) to better analyze.
- Build a BagofWordsClassifier model using **Pytorch**, CountVectorizer.

• Machine Learning on House Price Prediction   **May 2019**
- Data cleaning and exploratory data analysis.
- Utilized Random Forest and XG-Boost algorithms as training models.
- Increased final accuracy from 83% to 88% by parameter tuning.

• Affine Transformation from 3D to 2D with Surfaces Morphing Applications on Facial Expression   **Apr 2019**
- Affine transformation from three-dimensional to two-dimensional.
- Human facial expression with surface morphing.
- Color tuning by Image Alpha Blending.