WEI-CHIH HUANG

s104021230@tamu.edu | /in/wei-chih-huang | noctildon | Personal Site

EDUCATION

PhD in Physics, Texas A&M University, US — Aug. 2019 - Aug. 2025 (expected)
BS in Physics, National Tsing Hua University, Taiwan — Aug. 2015 - Jun. 2019

EXPERIENCE

Independent Data Science Researcher - Pro Cyclists Race Analysis (Github repo) — Apr. 2022 - present

- Construct machine learning models with PyTorch and sciki-learn for prediction (90% accuracy)
- Processed 12M rows of data with NumPy, Pandas, SciPy, scikit-learn, and PySpark
- Saved 80% costs compared to AWS, GCP, Azure by deploying data and model to Runpod (GPU cloud)
- Web scraped a website using BeautifulSoup and increased the performance by 500% with multi-threading

Research Assistant - Physics Department, Texas A&M University (researcher profile) — Aug. 2019 - present

- Designed machine learning models to reduce 90% of time on particle simulation
- Built physics models and conducted the statistical analysis on 1000M rows of multi-dimensional data by Python
- Automized and visualized the analysis with NumPy, SciPy, Pandas, and Matplotlib to save 90% of time
- Accelerated the analysis by 1000 times with dedicated algorithm, multiprocessing, caching, and C++
- Published 7 papers in high impact journals and presented several successful talks at international conferences

Quantitative Engineer - Aggie Quant Fund — Jan. 2024 - present

- Used cloud and local LLM and GitHub Actions to extract information from finance market news feed periodically
- Benchmarked, tested and validated trading strategies (outperform S&P500 by twice)
- Managed $100,000 fund and developed models for stock forecasting and portfolio optimization
- Built a high-performance backtest framework supporting automization and visualization and saved 70% of time

Full-Stack Web Developer/Project Manager - Aggie Coding Club — Jan. 2022 - Jan. 2023

- Built a referral machine to reduce the time of networking by 40%
- Developed a dynamic and responsive website using Django (Python) and Bootstrap (HTML, CSS, JavaScript)
- Deployed the website at 0 cost on Heroku
- Designed PostgreSQL database schema to save disk space by 20%
- Led a 10-people team and organized the meetings and the tasks to the team members

HONORS AND AWARDS

- **Data Science Ambassador Scholarship at Texas A&M Institute of Data Science** — 2022 - 2023
- **Three Years Tsing Hua University Scholarship** (2% acceptance rate) — 2015 - 2018
- **Undergraduate Research Scholarship** (5% acceptance rate) — Fall 2018

CERTIFICATIONS

- Fundamentals of Accelerated Computing with CUDA C/C++
- Machine Learning Foundations: Algorithmic Foundations
- Machine Learning Foundations: Mathematical Foundations
- Machine Learning Techniques
- Divide and Conquer, Sorting and Searching, and Randomized Algorithms
- A Crash Course in Causality: Inferring Causal Effects from Observational Data