WEI-CHIH HUANG

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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

Quantitative Engineer - Aggie Quant Fund — Jan. 2024 - present
- Managed $100,000 fund and developed models for stock forecasting and portfolio optimization
- Construct a high-performance backtesting framework that supports automization and visualization
- Benchmarked, tested and validated trading strategies
- Used cloud LLM services to extract information from finance market news feed

Research Assistant - Physics Department, Texas A&M University (researcher profile) — Aug. 2019 - present
- Built physical models and conducted the statistical analysis on the large multi-dimensional data by Python
- Automized and visualized the analysis with NumPy, SciPy, Pandas, and Matplotlib to save 90% of time
- Trained machine learning models to reduce 90% of time on particle simulation
- Accelerated the analysis by 1000 times with dedicated algorithm, multiprocessing, caching, and C++
- Published 6 papers in high impact journals and presented several successful talks at international conferences

Independent Data Science Researcher - Pro Cyclists Race Analysis (Github repo) — Apr. 2022 - present
- Web scraped a website using BeautifulSoup and increased the performance by 500% with multi-threading
- Preprocessed the data (clean, format, store) with NumPy, Pandas, SciPy, scikit-learn, and PySpark
- Construct machine learning models with PyTorch and sciki-learn
- Saved 80% costs compared to AWS, GCP, Azure by deploying data and model to Runpod (GPU cloud)
- Achieved 20% better performance than a trivial model

Data Science Ambassador - Physics Department, Texas A&M University — Aug. 2022 - Aug. 2023
- Provided training and consulting to the department and the students (webpage)
- Designed interactive workshops on topics including Python, Linux, statistics, data analysis, and machine learning

Full-Stack Web Developer/Project Manager - Aggie Coding Club — Jan. 2022 - Jan. 2023
- Led a 10-people team and organized the tasks to the team members
- Provided training and mentoring for the team members about Git, GitHub, Python, Linux and database
- Developed a dynamic and responsive website using Django (Python) and Bootstrap (HTML, CSS, JavaScript)
- Designed PostgreSQL database schema to save the disk space by 20%
- Built a referral machine to reduce the time of networking by 40%
- Deployed the website at zero cost on Heroku cloud platform

CERTIFICATIONS

- 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