

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

Independent Data Science Researcher - Pro Cyclists Race Analysis (Github repo)	Apr. 2022 - present
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- Construct machine learning models with PyTorch and scikit-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
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- 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
- Automated 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
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- Used cloud and local LLM to extract information from finance market news feed
- 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 automatization and visualization and saved 70% of time

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

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| • 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

- 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