

# WEI-CHIH HUANG

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## EDUCATION

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<b>PhD in Physics</b> , Texas A&M University, US	Aug. 2019 - Dec. 2025
<b>BS in Physics</b> , National Tsing Hua University, Taiwan	Aug. 2015 - Jun. 2019

## EXPERIENCE

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<b>Data scientist internship</b> - Capital One Auto Finance	Jun. 2025 - Aug. 2025
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- Reduced 10% loss for auto loans with machine learning models (GBM, NN, LSTM) deployed on AWS
- Improved AUC by 10% for future payments and default probability
- Designed customized PyTorch model, training loop and loss function to better align with business needs
- Built a scalable data pipeline that fetched 10TB+ data from Snowflake and processed analysis on AWS
- Collaborated with 4 product managers to translate model outputs into action-based decisions

<b>Quantitative Researcher/Engineer</b> - <a href="#">Aggie Quant Fund</a>	Jan. 2024 - Dec. 2024
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Application of cutting-edge technologies to financial market

- Managed \$100,000 fund and developed models for stock forecasting and portfolio optimization
- Outperformed S&P500 by 200% by AI-driven strategies (sentiment analysis, LLMs, alpha research)
- Automated market insight extraction with LLM-powered pipelines, GitHub Actions, and Kubernetes
- Saved 70% query time by high-performance market database (InfluxDB and PostgreSQL)
- Collaborated in a 10-person team to optimize portfolio, mitigate risks and monitor trades

<b>Research Assistant</b> - Physics Department, Texas A&M University ( <a href="#">researcher profile</a> )	Aug. 2019 - Jun. 2025
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PhD dissertation on high energy dark matter particle search

- Published 7 papers in top journals and presented at international conferences
- Processed 1B+ rows of multi-dimensional data with Python/PySpark and accelerated analysis 1000× using C++, multiprocessing, and caching
- Orchestrated large-scale distributed data processing and HPC optimization using MPI/OpenMP and PySpark
- Reduced particle simulation runtime by 90% with ML models (scikit-learn and PyTorch)
- Cut visualization runtime by 80% using optimized NumPy/Pandas/Matplotlib workflows
- Built an interactive platform agnostic data dashboard using Streamlit and Docker

<b>Full-Stack Web Developer/Project Manager</b> - <a href="#">Aggie Coding Club</a>	Jan. 2022 - Jan. 2023
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Dynamic website designed to cater to students' job-seeking requirements

- Built a referral website to reduce the time of networking by 40%
- Led a 10-member team to build and deploy a job referral web platform on GCP with Django/PostgreSQL
- Optimized schema design to reduce disk usage by 20%, cutting hosting cost

## SKILLS

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<b>ML/AI</b>	PyTorch, scikit-learn, TensorFlow, NLP, Transformers
<b>MLOps/Infra</b>	AWS, GCP, Snowflake, Linux, Docker, Kubernetes, Git, GitHub Actions, CI/CD
<b>Data/Database</b>	NumPy, Pandas, SciPy, PySpark, InfluxDB, SQL, PostgreSQL
<b>Languages</b>	Python, Bash, C/C++, SQL
<b>Visualization</b>	Matplotlib, Seaborn, Streamlit