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

PUBLICATIONS

- Probing the dark sector with nuclear transition photons — arxiv
  *Bhaskar Dutta, **Wei-Chih Huang**, Jayden L. Newstead*
- Inelastic nuclear scattering from neutrinos and dark matter — arxiv
  *Bhaskar Dutta, **Wei-Chih Huang**, Jayden L. Newstead, Vishvas Pandey*
- Short Baseline Neutrino Anomalies at Stopped Pion Experiments — arxiv
  *Iain A. Bisset, Bhaskar Dutta, **Wei-Chih Huang**, Louis E. Strigari*
- Axion-Like Particle Production at Beam Dump Experiments with Distinct Nuclear Excitation Lines — arxiv
  *Loyd Waites, Adrian Thompson, Adriana Bungau, Janet M. Conrad, Bhaskar Dutta, **Wei-Chih Huang**, Doojin Kim, Michael Shaevitz*
- Exciting Prospects for Dark Matter at Large-Volume Neutrino Detectors — arxiv
  *Bhaskar Dutta, **Wei-Chih Huang**, Doojin Kim, Jayden L. Newstead, Jong-Chul Park, Iman Shaukat Ali*

EXPERIENCE

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

- Built physical model and conducted the statistical analysis on the large multi-dimensional data by Python
- Accelerated the analysis by 1000 times with improved algorithm, multiprocessing, caching, and C/C++
- Published 5 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

- Achieved 20% better performance than a trivial model with machine learning models using Pytorch
- Boosted web scraping BeautifulSoup by 500% with multi-threading
- Preprocessed the data (clean, format, normalize) with NumPy, Pandas, SciPy, and scikit-learn
- Saved 80% costs compared to AWS, GCP, Azure by deploying data and model to Runpod (GPU cloud)

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

Project Manager - Aggie Coding Club — Jan. 2022 - Jan. 2023

- Led a 10-people team and developed a dynamic and responsive website using Django (Python)
- Deployed the website at zero cost on Heroku cloud platform
- Built a referral website to reduce the time of networking by 40%
- Designed PostgreSQL database schema to save the disk space by 20%

Teaching Assistant - Physics Department, Texas A&M University — Aug. 2019 - Dec. 2022

- Taught and graded college Newtonian Mechanics, Electromagnetism, Thermodynamics, and Statistical Mechanics
- Demonstrated hands-on experiments and post-lab data analysis