WEI-CHIH HUANG

Email ◇ Linkedin ◇ Github ◇ Personal Website

EDUCATION

PhD in Physics, Texas A&M University, US   June 2025 (expected)
BS in Physics, National Tsing Hua University, Taiwan   June 2019

PROJECTS

Aggie Job Referral Django, SQLite, PostgreSQL, Heroku, Bootstrap   website link

- Create referrals/openings matching website to reduce the time of networking by 40%.
- Connect Django to database
- Deploy to Heroku

PyBigstick NumPy, Pandas, Matplotlib, Streamlit, Docker   github link

- Auto-generate input scripts for BIGSTICK
- Save 95% of time writing input scripts
- Automize the analysis processes
- Visualize the result data with Streamlit
- Virtualize the app with Docker

Pro Cyclists Race Analysis NumPy, Pandas, BeautifulSoup   github link

- Web scraping the data from an organization website by BeautifulSoup
- Increase the web scraping speed by 5 times with multi-threading

Curve Fitting GUI SciPy, NumPy, Matplotlib, PyQT   github link

- User friendly graphical user interface tool for curve fitting

RESEARCH EXPERIENCE

Inelastic Neutrino-Nucleus Scattering using BIGSTICK (Large Scale Nuclear Shell Model Code)

- Deploy BIGSTICK to MPI/OpenMP in computer cluster
- Virtualize BIGSTICK with Docker to resolve the incompatibility with the cluster
- Analyze the multi-dimensional outputs by Python and Mathematica.
- Present several successful talks at workshops slides

Inflation and Late-time Acceleration in a New Gravity Theory

- Create time-dependent partial differential equations to describe the features of the universe
- Program Mathematica and Python to stimulate and visualize the evolution of the universe

Searching for Axions in IsoDAR (a Particle Physics Experiment)

- Construct statistics models for nuclear decay in the experiment and run statistical tests

Dark Matter in Merging Galaxies

- Automate the analysis process of dark matter near a galaxy with CASA (data processing software for radio telescopes arraies, written in IPython)
- Present a talk at workshop slides

Application of Deep Learning in AdS/CFT   text

- Integrate deep learning with Ads/CFT (a well-known theory in high energy physics)

Coherent Elastic neutrino-nucleus Scattering (CEνNS): Sterile Neutrino Search

- Construct a statistics model for sterile neutrino.

EXTRA-CURRICULAR ACTIVITIES

- Project Manager at Aggie Coding Club
- Data Science Ambassador representing Physics Department at Texas A&M

HONORS AND AWARDS

- **FlyUP Project Scholarship** 2015-2018
  Tuition wavier, including housing and textbooks

- **Undergraduate Research Scholarship** Fall 2018
  The scholarship for the New Gravity Theory

- **Data Science Ambassador Scholarship**
  Data Science Ambassador Scholarship Program at the Texas A&M Institute of Data Science 2022-2023

TEACHING EXPERIENCE

Teaching Assistant Math and physics *Shu Guang Girls' Senior High school* Spring 2016

Teaching Assistant Thermodynamics and Statistical Mechanics *Texas A&M University* Fall 2019

* Serving as TA for the courses below at Texas A&M for several semesters

Lab Teaching Assistant Electricity and Magnetism for Engineering and Science *Texas A&M University*

Teaching Assistant Newtonian Mechanics for Engineering and Science *Texas A&M University*

Teaching Assistant Electricity and Magnetism for Engineering and Science *Texas A&M University*