Wei-Han Hui (Ambrose)

Email: ambrosehui0105@gmail.com
Website: https://lp65082001.github.io
Tel: (+886) 972106451

Physical modeling and ML/DL application. I have a strong academic background in constructing and applying physical models, particularly in the realm of mathematical modeling, simulation tools, and multiscale simulations. I also have extensive experience in machine learning and deep learning applications, with a track record of successful interdisciplinary collaborations, demonstrating excellent communication and problem-solving skills, especially in **protein-related** fields. In short, I am committed to translating theoretical knowledge into practical applications to solve complex real-world problems.

Experience

11/2023 ~

Advanced Algorithm Engineer (Generative AI)
ACCTON, Hsinchu County

- RAG framework pipeline.
- Code Review application.
- Associate robot.
- AWS bedrock, lambda, and API gateway.

09/2019 to 08/2023

Ph.D. project
National Taiwan University, Taipei
*** Physical modeling (protein structure)**

- Temperature effect and crosslink effect in collagen.
- Conformation of ion channel and ion pathway.
- Linear polymer model mapping from atomistic model to coarse-grained model with multi-target parameter fitting.
- Uncovering absorption mechanisms between graphene and small molecule.

***ML/DL application**

- Protein function prediction by graph neural network.
- Osteogenesis imperfecta lethality prediction by graph neural network.
- Collagen strain prediction by XGboost.

07/2022 to 12/2022

Deep learning intern (object detection)
Industrial Technology Research Institute, Hsinchu County

- Unbalanced object detection.
- Deploy models on the Google Cloud Platform.

Skill Highlights

- Molecular dynamics simulation
  - LAMMPS, NAMD.
- Generative models (methods)
  - VAE, transformer (LLM), stable diffusion.
- ML/DL/RL models (methods)
  - XGBoost, SVM.
  - CNN, YOLO, GNN, CLIP, SAM.
  - GA, CEM.
- ML/DL framework
  - Scikit-learn.
  - Tensorflow (Keras).
  - Pytorch (Geometric).
- Programming language
  - Python, Matlab, C++.

Education

- **Ph.D.**, Artificial Intelligence center of Department of Civil Engineering, National Taiwan University 09/2019-08/2023
- **M.S.**, Department of Civil Engineering, National Taiwan University 09/2017-07/2019
- **B.S.**, Department of Civil Engineering, Chung Yuan Christian University 09/2012-07/2016