Mian Wu

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Education

Shanghai Jiao Tong University **Sep. 2021 – May 2025**
Bachelor of Engineer in Electrical and Computer Engineering *Shanghai, China*

University of California, Berkeley **Sep. 2023 – Sep. 2024**
Visiting Student *California, America*

Research

Early-exit Gpt **June 2023 – Present**
Efficient and High Performance Computing Lab *Shanghai, China*

- Applied Early Exit strategy to GPT-2, optimizing efficiency while minimizing the impact on generation quality.
- Incorporated auxiliary decoders for intermediate generative outputs, enabling dynamic early exits.
- Evaluated the modified GPT-2 on NLP benchmarks, achieving balanced efficiency and performance.

Design phononic crystals using deep learning techniques **May 2022 – Present**
Undergraduate Research Program *Shanghai, China*

- Employed MATLAB for systematic dataset generation and developed a Conditional Wasserstein Generative Adversarial Network (cWGAN) using TensorFlow, aiming to generate phononic crystal configurations that exhibit larger relative bandgaps.
- Utilized High-Performance Center to train and optimize the cWGAN model by incorporating a simulator loss.
- Collaborated in a multidisciplinary team, merging expertise in deep learning and materials science to check and ensure the generated configurations were physically feasible.

Projects

MxChat-bot | *Python, Java, Torch* **Present**

- Developed MxChat-bot using Python, leveraging the BERT model's transfer learning capabilities optimized to mimic users' conversational tones.
- Integrated sentiment and emotion detection in NLP model, collecting and processing users' expressions to enhance response accuracy and personalization.

Cook County Housing Price Predictor | *Python, Sklearn, Pandas* **August 2023**

- Leveraged a dataset from Cook County to train a machine learning model for predicting housing prices.
- Designed and fine-tuned a HistGradientBoostingRegressor model to achieve optimal performance metrics.
- Ranked as 4/90 in test set accuracy among all submitted models.

2022 X-Game Shanghai ICV&EV Bigdata Competition | *Python, Torch* **October 2022**

- Responsible for the data cleaning and visualization efforts for a dataset comprising operational data of electric vehicles to identify risk-associated factors.
- Help implement multiple machine learning models, including Gaussian Process, Multi-Layer Perceptron Neural Networks, and Support Vector Machines to predict risks for 1600 electric vehicles.
- Devised a clustering approach to segment the data into multiple subsets, allowing for tailored model training per subset, enhancing prediction accuracy.
- Achieved a 6th-place ranking among competing teams.

Awards

2021-2022 Undergraduate Excellent Scholarship **September 2022**
Shanghai Jiao Tong University *Shanghai, China*

The University Physics Competition - Silver Medal **October 2022**
University Physics Competition *Online*

Experience

Teaching Assistant **Spring 2023**
Shanghai Jiao Tong University *Shanghai, China*

- Discrete Mathematics (MATH2030)

Technical Skills

Languages: Python, Java, C, SQL, MATLAB, Mathematica, LaTeX
Developer Tools: VS Code, Google Cloud Platform, SolidWorks, Git
Technologies/Frameworks: Linux, GitHub