

Zhenhan Lin

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EDUCATION

University of Florida

Master of Science in Electrical and Computer Engineering

Florida, US

Aug. 2022 – Present

- **GPA:** 3.78/4
- Herbert Wertheim College of Engineering Achievement Award Scholarship (2022)

Hangzhou Dianzi University

Bachelor of Engineering in Computer Science and Technology

Hangzhou, CN

Sept. 2018 – Jun. 2022

- **GPA:** 85.14/100
- University Third Scholarship (2019 & 2021)
- Foreign Exchange Scholarship (2020)

University of Pennsylvania

USIEA Technology, Innovation & Global Leadership Program

Philadelphia, US

Oct. 2018 – Jan. 2019

RESEARCH PROJECTS

Millimeter-Wave Circuit Autorouting and Automatic Layout

Hangzhou Dianzi University

Oct. 2021 – Apr. 2022

Hangzhou, China

- Conducted the project on connecting design modules through two or more routes when designing an analog circuit that satisfied the two circuit requirements: (1) the amplitude at the output of all routes is equal to or different from the specified value; (2) minimize the total loss of routes;
- Proposed to utilize the **multi-agent reinforcement learning** algorithm for autorouting in complex circuits;
- Responsible for algorithm investigation and pre-model processing;
- Collaborated to complete the script control environment for layout design;
- Completed the script control environment for layout design and the engineering algorithm in Python.

Study on Fatigue Driving Detection System based on EEG

Hangzhou Dianzi University

Sept. 2020 – Jun. 2021

Hangzhou, China

- Utilized MATLAB to read EEG data set and mapped channel positions to 2D coordinates;
- Researched papers on related topics and reproduced the classification effect achieved by a paper that used LSTM algorithm to build a classifier;
- Participated in the construction of the framework of EEG-TPCT-TCN classifier with Pytorch.

Application of Artificial Intelligence Algorithm in Palletizer Scene

Hangzhou Dianzi University

Sept. 2020 – Jan. 2021

Hangzhou, China

- Participated in the implementation of cargo identification system based on SSD algorithm and the optimization of existing 2D online packing algorithm; achieved an accuracy rate higher than 99%;
- Simulated the implementation of edge computing module palletizing action in robot arm embedded system;
- Responsible for sorting out the experiment materials and completing the report.

PROJECTS

The Algonauts Project 2023

May 2023 – Jun. 2023

- Tried and analyzed the performance of different pre-trained image processing models against encoding model;
- Proposed and completed a dual generation system, train ViT-AE on image dataset, and explore the performance of a **Gaussian mixture model-Variational Autoencoder(GMM-VAE)** on generating voxels sequences;
- Implemented a Multilayer Perceptron (MLP) following pre-trained image feature extraction models for improved feature integration. Conducted separate training for MLP parameters before fine-tuning the whole model;
- Compare and dissect the performance and their reasons of the above two methods.

Causal Recurrent Variational Autoencoder for Climate Data

Jan. 2023 – Mar. 2023

- Utilized the Causal Recurrent Variational Autoencoder (CRVAE) model to analyze climate data, identifying the optimal range for the key sparsity- α parameter;

- Reviewed scholarly articles on generative models for time-series data to discover and implement model optimization techniques.

Musical Genre Classification from Audio Samples

Dec. 2022

- Contributed to the development of a **multi-label classifier** architecture, with a primary focus on distinguishing between prog-rock and other music genres. This project entailed constructing a baseline model, investigating the impact of various pre-processing features, and exploring the role of different layers in enhancing classification accuracy.

AWARDS

Provincial Second Prize , National College Students Mathematical Contest in Modeling (TOP 15%)	Oct. 2021
Meritorious , The 9th Certificate Authority Cup International Mathematical Contest in Modeling (TOP 10%)	Jan. 2021
Third Prize , The 2nd “Yueya Cup” Electronic Design Contest	Jun. 2020
Provincial Second Prize , Zhejiang Physics Innovation Competition Theory Competition	Dec. 2019

TECHNICAL SKILLS

Language: Python, C, MATLAB, Java

Framework: PyTorch, TensorFlow

Tools&Platforms: Linux, Git, Github, GitLab