# Yiran Ding 丁羿然

HangZhou, China

yiran.ding2@gmail.com (+86) 18157182879 Website

## RESEARCH INTEREST

MLsys; Distributed, Parallel, and Cluster Computing; HPC; Computer Architecture

## EDUCATION

**Hangzhou Dianzi University** **HangZhou, China**

*School of Electronics & Information*(*School of Microelectronics*) *Sep. 2021 - Jun. 2024*

*School of Mathematics* *Sep. 2020 - Jun. 2021*

GPA: 3.73/4.00 (4.37/5.00, 5%)

## RESEARCH EXPERIENCE

**Medical Image Processing:** *Nov. 2021 - Now*

- Led and designed the project of automatically evaluating finger tapping videos of Parkinson's disease patients.
- Developed LSTM-FCN based model to classify patients. The result has 83.7% accuracy, which in dataset of this paper defeats the state-of-the-art results in literatures.
- **Utilized**: Pose estimation (Mediapipe Hands), RIFE algorithm (Time Series Interpolation), LSTM, FCN.

## OTHER EXPERIENCE

**DGEMM: Double Precision General Matrix Multiplication** *July 2022 - Sept. 2022*

- Implemented the simple algorithm of Matrix Multiplication and optimized with register and block-wise.
- Using 9-ways to achieve Matrix Multiplication, including some methods of Cache-oblivious (Recursive) and Z-Morton.
- Testing Matrix size is from 16 to 2048, the best function is **82%** faster than the standard function.

**Mathematical Modeling: MCM/ICM 2022 E** *Feb. 17-21 2022*

- Led the modeling for measuring carbon sequestration and integrated value of forests.
- Developed logistic equation based model to estimate the carbon sequestration of different trees species.

## PROFESSIONAL DEVELOPMENT

**Skills:** C, C++, Python, Matlab / OpenMP, MPI, CUDA / Linux / Verilog

**Online Courses:** MIT 18.06: Linear Algebra, CMU 15-213: Intro to Computer Systems (CSAPP), MIT 6.s081: Operating System Engineering (Ongoing) UCB CS267: Applications of Parallel Computers (Ongoing), UCB AI-Sys: Machine Learning Systems (Ongoing)

## AWARDS AND ACTIVITIES

**Scholarship**

- The First Prize Scholarship (Three semesters), Award rate 5%
- Scholarship of Provincial Government, Award rate 5%

**Activities**

- Taught new students about programming skills such as Python, Matlab, etc. Instructed them to solve NP-hard Graph Theory Problems with Heuristic Algorithms, and Time Series Forecasting Problems with LSTM Neural Networks.