Yufan Xia

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About Me

I am a 22 year-old student in university, who switched to Computer Science in less than 2 years ago. I have one on-going project, my expected graduation is June 2022.

Education

Australian National University; Canberra, Australia   **2020-Present**
GPA: 6.63/7, Master of Computing (Advanced)   Expected Graduation: June 2022

Royal Melbourne Institute of Technology; Melbourne, Australia   **2018-2020**
Bachelor of Aviation Management, switched major to Computer Science in 2020 at ANU

Research Projects

ADSALA, Australian National University   **2021-Present**
Supervisor: Professor Amanda Barnard, Dr. Giuseppe Barca

- An architecture & data-structure aware linear algebra library

- Uses ML models to decide on the best hardware/ data-structure/ package/ algorithm

- Automatic data collection& model training on different hardware (especially HPC systems)

- Current result gives over 90% performance boost on MKL multicore GEMM operations

- Next step will be on other packages on CPU and GPU as well as auto-choose over hardwares

Course Projects

2-D Advection Solver Development on Gadi HPC   **2021-2021**
- Using block decomposition and halo exchange to parallelize advection calculation

- Uses MPI, OpenMP and CUDA as three different tools

- Uses techniques like wide halo, communication overlapping, or a combination to make faster

- Evaluates the effect of different block/ grid sizes and shared memory when on CUDA

- Update field in a back-and-forth way for each step, which saves time for copying data

Game Solver Development   **2020-2020**
- Given a specific starting, need to use 10 different pieces fill the board with no overlap

- Developed a recursive game solver

Working Experience

Department of Cloud Computing, iFlytek; Hefei, China   2020-2020

- Intern as software developer of level 2, uses C++ as the main language

- Dealing with streaming audio, as well as chunks of audio & images

- Help the group to integrate user's ML abilities into the platform.

Institute of Computing Technology, Chinese Academy of Science; Beijing, China
                                                                          2019-2019

- Short term intern, worked on a portfolio composition project using Python

- Achieved a balance between risk and revenue, adjusted dynamically using real-time data

- Good result accomplished across the groups

Additional

- Specializations: HPC and System (Core Courses: Parallel System), Intelligent System (Core Courses: Machine Learning, Convex Optimization, Statistical Machine Learning, Computer Vision)
- Relevant Courses: Structured Programming, Software Construction, Relational Database
- Programming Languages: Python, C++, Java, SQL, HTML/CSS
- Others: I have great interest in HPC, Quantum Computing and CV/VR