LAN LU

loulankxh@gmail.com (+86) 181-7597-3145 loulankxh homepage

EDUCATION

Southern University of Science and Technology, Shenzhen, China Sep.2018 - Present

Bachelor in Computer Science and Engineering (CSE), expected June 2022

GPA: 3.91/4.00 Rank: 1/153

EXPERIENCE

Research Assistant, Southern University of Scienceand Technology Sep.2020 - Present

Worked on **similarity search** for large-scale datasets supervised by Prof. Bo Tang and Prof. Xiao Yan

Teaching Assistant, Southern University of Scienceand Technology Jan..2021 - Jun.2021

Assisted in teaching the course Java programming

RESEARCH PROJECT

Efficient Maximum Inner Product Similarity Search Nov.2020 - Mar. 2021

Research Project Supervisor: **Prof. Bo Tang** and **Prof. Xiao Yan**

To speed up the large-scale maximum inner product similarity search, we propose a CPU-GPU hybrid system which achieves both short query processing time and high result quality.Compared with FAISS, this system has significantly shorter query processing time at the same recall.

- Provide **norm-based** pruning according to Cauchy-Schwarz inequality
- Implement **residue-based** pruning from RQ technique
- Realize and prove **hash-based** pruning

Efficient Similarity Search based on Graphs Mar. 2021 - Present

Research Project Supervisor: **Prof. Bo Tang** and **Prof. Xiao Yan**

To further speed up the large-scale similarity search on GPU, we are looking for the design which describes similarity relationships between items with proximity graphs to avoid unnecesary computing. This project is currently ongoing and status will be updated monthly.

NOTABLE COURSE PROJECT

Pintos - Enhance A Simple Operating System Framework Mar.2021 - Present

Individual Course Project code

Pintos is a simple operating system framework for the 80x86 architecture. We need to practice on it by strengthening its support in thread-level.

- Implement some fundamental system calls and an efficient alarm clock
- Implement the **priority scheduling** with priority donation and multilevel feedback queue scheduling.
- Test Pintos with GDB

Influence Maximization and **Reversi for AI** Sep.2020 – Dec.2020

Individual Course Project code

Influence Maximization is the problem of finding a small subset of nodes in a social network that could maximize the spread of influence.

Reversi is a classical game with two players online for competing. Player with more pieces on the board will be the winner.

- Rank top 10% in the performance contest in my class

Canteen Defense for OOAD - A Tower Defense Game Sep.2020 – Dec.2020

Group Course Project code

Canteen Defense is a unity-based tower defense game. Scripts for it realized design patterns including prototype pattern, observer pattern and singleton pattern.

HONORS AND AWARDS

1st Prize, Scholarship for Outstanding Student(5%) Sep.2020

1st Prize, Scholarship for Outstanding Student Sep. 2019

Bronze Medal, China Collegiate Programming Contest, Xiamen Site Oct .2019

Scholarship for Outstanding Fresher Sep.2018

EXTRA ACTIVITIES

Minister of College Student Union 2019 - 2020

Participating in Model United Nations Conferences: 2016 - 2018
- NHSMUN, FDUIMUN, CSCMUN

Practicing the saxophone and Chinese Guzhen 2008 - Present