





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 Science and Technology Sep.2020 - Present
Worked on **similarity search** for large-scale datasets supervised by
Prof. Bo Tang

Teaching Assistant, Southern University of Science and Technology Jan..2021 - Jun.2021
Assisted in teaching the course Java programming

RESEARCH PROJECT

Efficient Maximum Inner Product Similarity Search Nov.2020 - Present
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

RESEARCH PUBLICATION

Accelerate Maximum Inner Product Search with GPU

Author: Xiao Yan, Long Xiang, Lan Lu, Bo Tang

Status: Submitted to **SIGIR** in Mar.2021

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

1 st Prize, Scholarship for Outstanding Student	Sep.2020
1 st Prize, Scholarship for Outstanding Student (5%)	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: <ul style="list-style-type: none">• NHSMUN, FDUIMUN, CSCMUN	2016 - 2018
Practicing the saxophone and Chinese Guzhen	2008 - Present