LAN LU

## [loulankxh@gmail.com](mailto:loulankxh@gmail.com) (+86) 181-7597-3145 [loulankxh](https://github.com/loulankxh) [homepage](https://loulankxh.github.io/)

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

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

## Sep.2020 - Present

**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**](https://acm.sustech.edu.cn/btang/) 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-Schwarzinequality
* 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**](https://acm.sustech.edu.cn/btang/) 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

*Individual Course Project * [code](https://github.com/loulankxh/CS302OS)

Pintos is a simple operating system framework for the 80x86 architecture. Weneed 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

## Mar.2021 - Present

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

*Individual Course Project *[code](https://github.com/loulankxh/CS303AI)

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

*Group Course Project * [code](https://github.com/loulankxh/Canteen-Denfense)

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

## Sep.2020 – Dec.2020

HONORS AND AWARDS

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

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Bronze Medal, China Collegiate Programming Contest, Xiamen Site Scholarship for Outstanding Fresher

EXTRA ACTIVITIES

Minister of College Student Union

Participating in Model United Nations Conferences:

* NHSMUN, FDUIMUN, CSCMUN Practicing the saxophone and Chinese Guzhen

Sep.2020

Sep. 2019 Oct

.2019

Sep.2018

2019 - 2020

2016 -

2018

2008 - Present