

# XINYU LIAN

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## EDUCATION

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**Zhejiang University/University of Illinois at Urbana-Champaign Institute**

*September 2018 - Present*

Bachelor in Electrical and Computer Engineering

Scheduled to study in University of Illinois at Urbana-Champaign from August 2021 to January 2022

**Performance:**

**GPA: 3.95/4**

**Rank: 4/31**

**Hong Kong University**

*July 2019 - August 2019*

Mathematical Laboratory and Modeling Summer School

receive A+ and award of excellence

## RESEARCH INTERESTS

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- Optimization of computer systems
- Application of AI in computer architecture and systems
- Data mining in large scale networks

## PUBLICATIONS

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Fengqing Jiang<sup>1</sup>, Neng Xiong<sup>1</sup>, **Xinyu Lian<sup>1</sup>**, Senén González<sup>2</sup>, Klaus-Dieter Schewe<sup>1</sup>, ***Handling Unbounded Parallelism in ASMs Through a BSP-based Refinement, ABZ, 2021.***

## RESEARCH EXPERIENCES

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**IDEA Lab@UIUC: Prof. Hanghang Tong**

January 2021 - Present

Apply N2N on NMF (non-negative matrix factorization)

N2N is network derivative mining. Given the input network and a specific mining algorithm, N2N finds a derivative network whose edges measure the influence of the corresponding edges of the input network on the mining results.

**SRTP: MapReduce with BSP Bridging Model, Linguistic Reflection**

May 2020 - Present

MapReduce using the Bulk Synchronous Parallel Bridging Model and Linguistic Reflection.

The project is to show how the bulk synchronous parallel bridging model can be used to realise any MapReduce algorithm. The project exploits that the BSP model can be captured by specific concurrent Abstract State Machines (cASMs).

**Paper has been accepted by ABZ2021**

**Research internship: Professor Liangjing Yang, Zhejiang University**

June 2019-July 2019

Based on the robot assisted surgical, explore precise way on virtual reality training, camera calibration and 3D reconstruction. Find a method to do hand-eye calibration automatically and get the transform matrix of Christian Wengert's example.

**Second Prize of Excellent Summer Intern Project, awarded by ZJU-UIUC institute**

## WORK EXPERIENCE

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### Teaching Assistant, ECE120

Spring 2020

Hold discussions and grade the homework and exams.

### Teaching Assistant, CS101

Fall 2020

Hold labs and grade the labs and exams.

### President of student union

October 2020 - Present

## AWARD

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Second-class scholarship of Zhejiang University

Oct. 2020

Scholarship of ZJUI Institute

Nov. 2020

Dean List

Nov. 2020

Second Prize of Excellent Summer Intern Research Project

Nov. 2019

Fifth place in Zhejiang University Table Tennis Competition

Nov. 2019

First Prize of Summer Social Practice

Nov. 2020

We went to be volunteer teachers in Songtao Autonomous Region, Guizhou Province

## COURSE

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### ECE391: Computer Systems Engineering

Build a system kernel by ourselves

### ECE220: Computer Systems Programming

Final MP: Using Dijkstra's algorithm and Pyramid tree to get the shortest path.

### CS225: Data Structure

Final Project: Make a database processor:

1. Use B+ tree to search and modify the database in the storage.
2. Use B tree to find the data with similar part.
3. Use 2SAM(two-stack abstract machine) for the query operation.

## PERSONAL SKILLS

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Relatively Skilled in Pytorch, Python, C++, C and Matlab

## PERSONAL TRAITS

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- Highly motivated and eager to learn new things.
- Strong motivational and leadership skills.
- Ability to work as an individual as well as in group.