YONGGANG JIANG

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EDUCATION

Nanjing University *Sep. 2017 - Jun. 2021(expected)*
B.C. in Computer Science and Technology, Elite Program
GPA: 94.4/100 *(Major)* 92.4/100 *(Overall)*
Ranking: 1/31 *(Major)* 3/204 *(Overall)*

University of California, Berkeley *Jan. 2020 - May. 2020*
Berkeley International Study Program
GPA: 4.0/4.0

RESEARCH INTERESTS

I have broad interests in theoretical computer science, especially in sampling and distributed algorithms. Currently, I am focusing on classical distributed problems like Byzantine consensus. I am also considering problems related to sampling using spatial mixing property.

RESEARCH EXPERIENCE

Research work in TCS group at **Nanjing university**

Boosting Distributed Las Vegas Algorithms *Jul. 2019 - Oct. 2020*
(Advisor: **Prof. Yitong Yin***)*

- The Las Vegas algorithm has two definitions: bounded time with checkable failure and random time that is always correct. The difference in the two definitions is trivial in the computation model with a central controller but non-trivial in a distributed model. We used an algorithm to implement the reduction in the LOCAL model.
- Our algorithm can also be applied to the uniform sampling LLL (Lovasz Local Lemma) instance. The expected run time is polynomial on log n when the instance has a constant, correct rate. Moreover, the expected run time of our algorithm is nearly exponentially convergent, i.e., highly concentrated in its expectation.

Current work in Distributed Computing *Aug. 2020 - Present*
(Advisor: **Prof. Chaodong Zheng***)*

- Byzantine consensus protocol with recourse competitive analysis.
- Contention resolution problem with jamming and without collision detection.

Dynamic Sampling *Jan. 2019 - Jun. 2019*
(Advisor: **Prof. Yitong Yin***)*

- Based on previous work *Dynamic Sampling from Graphical Models.*
- Improve the condition for the fast convergence of the dynamic sampling hardcore model.

TEACHING EXPERIENCES

Data Structures and Algorithms, Nanjing University, Fall 2019 *Sep. 2019 - Jan. 2020*
Data Structures and Algorithms, Nanjing University, Fall 2020 *Sep. 2020 - Present*

KEY PROJECTS

Predicting the Run Time of Sklearn Programs *Jan. 2019 - Feb 2019*
Group work at Hong Kong University of Science and Technology

- Predicted the run time of a certain function on some given parameters, based on given samples.
- Used k-nearest neighbor (KNN) method, yeilding a final result ranked third among all participants.

Digital Circuit and System Final Project *Jan. 2019*
Joint work with Yangbo Zhang and Xingliang Du *Project leader*

- Implemented a multi-cycle Mips instruction architecture CPU.
- Functions included typing into the shell and executing some simple operations (lighting, clearing the screen, calculating simple expressions, etc.)

Introduction to Computer Systems (ICS) Project *Sep. 2018 - Jan. 2019*

- Achieved a full-featured N86 simulator NEMU (NJU emulator) and ran the game "Legend of Swordsman".

HONORS & AWARDS

National Elite Program Scholarship, Outstanding Prize (top 1)	*2019-2020*
National Elite Program Scholarship, Outstanding Prize (top 1)	*2018-2019*
National Elite Program Scholarship, First Prize (top 1)	*2017-2018*
CCPC Asia Regional Contest, Gold Medal: Guilin	*2018*
ACM-ICPC Asia Regional Contest, Silver Medal: Jiaozuo	*2018*
NOIP First Prize	*2015*

SKILLS

Computer Languages	C/C++, Java, SQL
English	TOEFL(*MyBest*™): 104 (Reading 29, Listening 29, Speaking 23, Writing 23)
GRE	153 (Verbal 153, Quantitative 170, Writing 3.5)