Yixuan Xu

Tsinghua University
Institute for Interdisciplinary Information Sciences
No. 1, Tsinghua Garden, Haidian District, Beijing, 200701

Phone: +86-13775123300
Email: xuyx20@mails.tsinghua.edu.cn
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EDUCATION TSINGHUA UNIVERSITY, INSTITUTE FOR INTERDISCIPLINARY INFORMATION SCIENCES
September 2020 – Present

Special Pilot Class in Computer Science (Yaoclass)
GPA until 2022 Fall: 4.0/4.0. Rank: 1/79

RESEARCH (ONGOING) RANDOMIZED ASSIGNMENT ALGORITHMS IN PEER REVIEW
September 2022 – Present

- Ongoing, no write-ups done yet.
- Joint work with Fei Fang, Steven Jecmen, Zimeng Song.

BIDDER SELECTION PROBLEM IN POSITION AUCTIONS VIA POISSON APPROXIMATION
July 2022 – January 2023

- Submitted to **EC 2023**, under review.
- Joint work with Nick Gravin, Renfei Zhou.
- Proposing a novel Poisson-Chernoff relaxation of the Bidder Selection Problem for Position Auctions, and giving a PTAS that is useful and efficient in practice.

ON THE PERTURBATION FUNCTION OF RANKING AND BALANCE FOR WEIGHTED ONLINE BIPARTITE MATCHING
January 2022 – July 2022

- Submitted to **ICALP 2023**, under review.
- Joint work with Jingxun Liang, Zhihao Gavin Tang, Yuhao Zhang, Renfei Zhou.
- Proving the uniqueness of a function used in the optimal algorithms for the AdWords Problem and the Vertex Weighted Online Bipartite Matching Problem, and refuting a previous conjecture about a well-known algorithm for AdWords.
- ArXiv preprint available at `https://arxiv.org/abs/2210.10370`.

INTERNSHIP QIAN FANG MEDICAL CARE, BEIJING ACADEMY OF ARTIFICIAL INTELLIGENCE
April 2021 – September 2021
Instructor: Yang Yuan, Institute for Interdisciplinary Information Sciences, Tsinghua.
Write an expert system for intelligent medical inquiry with Scala.

HONORS AND AWARDS

Scholarships and Honors

Jiang Nanxiang Scholarship	October 2022
IIIS Comprehensive Excellence Scholarship	October 2021 & 2022
Three Star Zi Jing Volunteer of Tsinghua University	June 2022
China National Scholarship	October 2021

Xue Tang Scholarship of Tsinghua University	October 2020 – Present
Second Rank Freshmen Scholarship of Tsinghua University	October 2020 – Present
Hua Ying Scholarship	September 2020 – Present

Competitive Programming (Selected)

ICPC Asia-East Continent Final Contest, 3rd Place, **Gold Medal**	July 2022
ICPC Asia Kunming Regional Contest, 1st Place, **Champion**	April 2022
China Collegiate Programming Contest Final, 3rd Place, **Gold Medal**	May 2021
ICPC Asia Shanghai Regional Contest, 3rd Place, **Gold Medal**	December 2020
ICPC Beijing Xiaomi Invitational Contest, 1st Place, **Champion**	November 2020
National Olympiad in Informatics 2019, 8th Place, **Gold Medal**	July 2019
Asia-Pacific Informatics Olympiad 2018, 7th Place, **International Gold Medal**	
	May 2018
China Team Selection Competition 2018, 11th Place, **Gold Medal**	May 2018
CCF NOI Winter Camp, 27th Place, **Gold Medal**	February 2017

SELECTED COURSE PROJECTS	ONLINE BIPARTITE MATCHING SURVEY	December 2022
	Course project of Algorithm Analysis and Design, 2023 Fall.	
	A survey on online bipartite matching.	
	A NEW SOLUTION TO PRIORITY GAS AUCTION	June 2022
	Course project of Game Theory, 2022 Spring.	
	A study on Priority Gas Auction problem in blockchain application, results improved.	
	ON ROBUST SMALL MODELS BASED ON KNOWLEDGE DISTILLATION	June 2022
	Course project of Numerical Analysis, 2022 Spring.	
	A survey on adversarial training and knowledge distillation.	

SELECTED COURSE GRADES	Algorithm Design	Grade: A+
	Algorithm Analysis and Design (**Graduate Course**)	Grade: A+
	Theory of Computation	Grade: A+
	Game Theory	Grade: A+
	Operating System	Grade: A+
	Computer Architecture	Grade: A+
	Data Structures in the Real World	Grade: A+
	Fundamentals of Digital Electronics	Grade: A+
	Introduction to Computer Science	Grade: A+
	The Physics of Information	Grade: A+
	Abstract Algebra	Grade: A+
	Linear Algebra	Grade: A+
	Machine learning	Grade: A
	Quantum Computer Science	Grade: A
	Fundamentals of Cryptography	Grade: A
	Calculus	Grade: A

I am generally interested in and good at CS courses, especially at those including algorithm design and coding. In all of my courses, I obtain a grade of at least A-.

SERVICE   Volunteering at Question Answering Workshop of Tsinghua University

                         March 2022 – Present

Teaching secondary school students competitive programming in Changzhou Senior High School of Jiangsu Province   February 2018 – Present

I have 81.5 hours of offically recorded volunteering work during my undergrad.

OTHERS   **Programming Languages:** C & C++, LaTeX, Python, Verilog, Matlab, Scala, Octave
Hobbies: Guitar Playing (Level 10 Amateur), Competitive Programming

I used to participate in online competitive programming contests. I have rating 3030 (Legendary Grandmaster) on codeforces.com and rating 3199 (6 Dan) on atcoder.jp.