Lidian Zhuo

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EDUCATION

School of Electronics Engineering and Computer Science, Peking University (PKU), Beijing, China Sept 2016 - July 2020
B.S. in Computer Science and Technology
Overall GPA: 3.66/4.0 **Major GPA:** 3.77/4.0
Core Courses: Practice of Programming in C&C++(Honor Track) (91) / Data Structure and Algorithms(A)(Honor Track) (92) / Algorithm Design and Analysis (Honor Track) (91)/ Theoretical Foundations in Blockchain Technology (95) / Fundamentals of Cryptography (95) / Introduction to Information Security (90) / Probability Theory and Statistics (A) (95) / Algebraic Structure and Combinatorial Mathematics (100) / Mathematics in Information Science (92)

RESEARCH INTERESTS

- Blockchain technology & theoretical foundations of blockchain and cryptocurrencies
- Cryptography
- Information security & privacy

RESEARCH EXPERIENCES

Application of Blockchain in PKI Nov 2018 - Present

- Concluded how blockchain can be used to improve current CA-based PKI - to use blockchain as a trusty distributed synchronous database, as the core of an automatic incentive mechanism designed on log-based PKI, or as the CA to authenticate and issue certificates
- Compared and analyzed the ideas above in their safety, scalability and practical issues

Privacy Issues in Blockchain July 2018 - Sept 2018

- Read several papers on privacy issues in the blockchain, involving sender privacy, receiver privacy, transaction amount privacy, and a design of privacy-preserving auditable distributed ledger
- Took part in discussion on how to improve privacy designs with my teammates and elder graduates

Approximating the Permanent and Estimating the Number of Matchings May 2018 - July 2018
Advisor: Hanpin Wang, Professor at School of Electronics Engineering and Computer Science, PKU

- Concluded two most basic methods (MCMC, Correlation Decay) and some other ideas (Taylor expansion for special matrices, various forms of mathematical expectations to estimate the permanent) to approximate the permanent and estimate the number of (perfect) matchings in some graphs with my two teammates
- Illustrated that the Correlation Decay method is unsuitable for estimating the number of perfect matchings in general graphs, and hypothesized that it is not a good idea to estimate matchings in general graphs as well

AWARDS AND HONORS

- Awards for Excellent Academic Performances, PKU 2018
- Gold prize, The ACM/ICPC Asia Qingdao Regional Contest 2017
- Rank 8 among over 300 teams in PKU Campus 2017 (The ACM/ICPC contest held by PKU annually), PKU, 2017
- The Tianchuang Scholarship, PKU 2017
- Gold prize, The ACM/ICPC Asia Shenyang Regional Contest 2016
- Silver medal, the 32nd National Olympiad in Informatics(NOI) 2015
- Silver medal, the 31st National Olympiad in Informatics(NOI) 2014

SKILLS

- Programming Languages: C/C++, Python, Java, JavaScript, Solidity, SQL
- Solid Mathematical skills
- Basic knowledge of cryptography and security
- Applications: Microsoft Office, LATEX, Markdown
- Standard English Tests: TOEFL: Total 95