# Chenzhi Zhu

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## Education

**Tsinghua University**                                                   Beijing, China
*B.S. in Institute for Interdisciplinary Information Sciences*               *2016-present*

- · Overal GPA: **3.83/4.00**; Ranking: 6/38
- · Selected awards: Yao Award; Freshman Scholarship
- · Selected to Tsinghua Xuetang Special Pilot CS Class, directed by Prof. Andrew Yao.
- · Admission given by *Gold Medal* in the National Olympiad of Informatics 2015.
- · Visiting student to Carnegie Mellon University

## Research Experience

**Carnegie Mellon University**                                      Pittsburgh, Pennsylvania
*Research Assistant with Professor Vipul Goyal*                          *Feb. 2019 – present*

**Efficient Multiparty Computation Protocol with Guaranteed Output Delivery**:
- · Explored past results on the communication complexity of MPC protocol with guaranteed output delivery.
- · Proposed some ideas in reducing the communication required per multiplication gate.
- · Proposed a dynamic segment division protocol that improves the communication complexity under best case (when every party acts honestly).
- · Reduced the number of broadcasts required when localizing a malicious party.

**Private Storage and Computation on Blockchain**:
- · Exploring cryptographic primitives to add privacy guarantees to Blockchain protocols.
- · Designed a new blockchain protocol that could not only allow the users to store their data privately but also do private computation over the private data.

**Non-malleable Multi-source Randomness Extractor**:
- · Designing the protocols for non-malleable multi-source randomness extractor against overlapping tampering which is stronger than independent tampering.
- · Showed relations between non-malleable secret sharing scheme and non-malleable extractor against similar class of tampering functions.

**Stanford University**                                                Palo Alto, California
*Research Assistant with Professor Keith Winstein*                       *Jul. 2018 – Feb. 2019*

**Continual Learning Improves Internet Video Streaming**:
- · Designed and implemented a continual learning algorithm for bitrate selection in streaming video which combines deep learning algorithm with model predictive control.
- · Built a video-streaming website for gathering real-world data and testing performance of different algorithms.
- · Proposed a new transmission time prediction model that could make more accurate prediction than previous model.

## Submitted/Manuscripts

1. Vipul Goyal, Yifan Song, and Chenzhi Zhu. Communication-efficient unconditional honest-majority mpc with guaranteed output delivery. *In submittion*, 2019

2. Francis Y Yan, Hudson Ayers, Chenzhi Zhu, Sadjad Fouladi, James Hong, Keyi Zhang, Philip Levis, and Keith Winstein. Learning in situ: a randomized experiment in video streaming. *In submittion*, 2019

## Honors & Rewards

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|---|---:|
| *Yao Award (recognition price), Tsinghua University* | *2019* |
| *Academic Excellence Award, Tsinghua University* | *2017,2018* |
| *Fellowship of Xuetang Talents Program, Tsinghua University* | *2017,2018* |
| *Freshman Scholarship, Tsinghua University* | *2016* |
| ***Gold medal*** *in National Olympiad in Informatics (China)* | *2015* |

## Additional Information

**Computer & Language Skills**:

· Programming Languages: C/C++, Java, Python, JavaScript, HTML, PHP
· Libraries & Software: Django, InfluxDB, libscapi, Latex, Matlab
· Language: Chinese, English

**Hobbies & Interests**:

· Member of the institue's basketball and baseball teams.
· Rubic's Cube: solve 3 by 3 within 20 seconds.
· Others: kating, Swimming, Billiards, Harmonic