

Ke Wu

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Present Address
5700 Bunkerhill St
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Research Interests

- Cryptography, Game Theory, Coding Theory.

Education

- **Ph.D. student in Computer Science** *Aug 2020 – present*
Carnegie Mellon University, Pittsburgh, PA
Advisor: Elaine Shi
- **Ph.D. student in Computer Science** *Aug 2019 – Aug 2020*
Cornell University, Ithaca, NY
- **M.S. in Computer Science** *Sep 2016 – Dec 2017*
Johns Hopkins University, Baltimore, MD
- **B.S. in Mathematics** *Sep 2012 – Dec 2016*
Fudan University, Shanghai, China

Award

CMU Cylab Presidential Fellowship 2022 – 2023.

Publications (unless otherwise noted, authors are in alphabetical order)

1. Ilan Komargodski, Shin'ichiro Matsuo, Elaine Shi, Ke Wu.
[log* -Round Game-Theoretically-Fair Leader Election](#). In **CRYPTO 2022**.
2. Ryan Gabrys, Venkatesan Guruswami and João Ribeiro, Ke Wu.
[Beyond Single-Deletion Correcting Codes: Substitutions and Transpositions](#). In **RANDOM 2022**.
3. Ke Wu, Gilad Asharov, Elaine Shi (random author order).

[A Complete Characterization of Game-Theoretically Fair, Multi-Party Coin Toss](#). In **EUROCRYPT 2022**.

4. *Ke Wu, Aaron B. Wagner (contribution order).
[A Practical Coding Scheme for the BSC with Feedback](#). In **ISIT 2021**.
5. Elaine Shi, Ke Wu.
[Non-Interactive Anonymous Router](#). In **EUROCRYPT 2021**.
6. Kuan Cheng, Bernhard Haeupler, Xin Li, Amirbehshad Shahrabi, Ke Wu.
[Synchronization strings: Highly efficient deterministic constructions over small alphabets](#). In **SODA 2019**.
7. Kuan Cheng, Zhengzhong Jin, Xin Li, Ke Wu.
[Edit Errors with Block Transpositions: Deterministic Document Exchange Protocols and Almost Optimal Binary Codes](#). In **ICALP 2019**.
8. Kuan Cheng, Zhengzhong Jin, Xin Li, Ke Wu.
[Deterministic document exchange protocols, and almost optimal binary codes for edit errors](#). In **FOCS 2018** and **Journal of the ACM**.

Invited Talks

- **Log*-Round Game-Theoretically-Fair Leader Election**
 1. CRYPTO, Aug 2022
- ***A Complete Characterization of Game-Theoretically Fair, Multi-Party Coin Toss (EUROCRYPT 2022)***
 1. EUROCRYPT, May 2022
 2. PL-meets-crypto workshop, May 2022
 3. Stanford University, Security Seminar, May 2022
 4. Carnegie Mellon University, Theory Lunch, April 2022
 5. Bar-Ilan University, Theory Seminar, December 2021
- ***A Practical Coding Scheme for the BSC with Feedback (ISIT 2021)***
 1. ISIT, July 2021

- ***Synchronization Strings: Efficient and Fast Deterministic Constructions Over Small Alphabets (SODA 2019).***

1. SODA, January 2019
2. University of Maryland, Theory Seminar, December 2018
3. Johns Hopkins University, Theory Seminar, December 2018

Reviewing Activities

- **Journal Reviewer:** Journal of Information Theory.
- **Conference Reviewer:** FOCS 2022, TCC 2022, SODA 2022.

Professional Experience

- **Research Intern, NTT Research, Inc.** *May 2022 – Aug 2022*
Doing research on transaction fee mechanisms.
Supervisor: Elette Boyal.

- **Research Intern, NTT Research, Inc.** *May 2021 – Aug 2021*
Doing research on game-theoretically fair leader election with sub-loglog n rounds.
Supervisor: Ilan Komargodski.

- **Research Assistant, Johns Hopkins University** *Feb 2017 – Mar 2019*
Conducted research on coding theory and cryptography, focusing on studying the error-correcting code and the document exchange protocol for edit errors.
Supervisor: Xin Li.

- **Teaching Assistant**
Head TA of Introduction to Algorithms *Sep 2019 – Jun 2020*
Introduction to Cryptography *Sep 2021 – Dec 2021*

Services

- Co-organizer of CMU CyLab crypto seminar:
<https://sites.google.com/view/crypto-seminar/home>