Ganyuan Cao

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OBJECTIVE

A Ph.D./M.Sc student/researcher in Computer Science with a concentration on Cybersecurity. My research focuses on Cryptography with interests in Succinct Computational Integrity & privacy (SCIP) algorithms and its application on blockchain.

EDUCATION

- *Bachelor of Science*, Computer Science
  Arizona State University, Tempe, AZ, May 2020
  Concentration: Cybersecurity
  Minor/Certificate : Cryptology
  Honors: Summa Cum Laude (GPA: 3.83/4.0)

SKILLS & ENDORSEMENTS

- *Relevant Knowledge:* Cryptography, Blockchain, Abstract Algebra, Elliptic Curves
- *Programming Languages:* Python, C/C++, Java, Soldity
- *Mathematical Computation:* Wolfram Mathematica, Pari/GP
- *OS & Framework:* Linux, Docker
- *Text Editing:* LaTeX, Markdown

EXPERIENCE

Research Associate Fall 2017 - May 2020
Laboratory of Security Engineering for Future Computing(**SEFCOM**), Arizona State University

- Work on algorithms and protocols to increase the Proof-of-Work blockchain mining efficiency while persevering the original security features.
- Evaluate performance of different blockchain consensus protocols including Proof-of-Work, Proof-of-Stake, and Byzantine Fault Tolerance protocols.

PUBLICATIONS, ARTICLES & POSTERS

1. Xue, Tengfei, Yuyu Yuan, Zahir Ahmed, Krishna Moniz, **Ganyuan Cao**, and Cong Wang. "Proof of Contribution: A Modification of Proof of Work to Increase Mining Efficiency." In 2018 IEEE 42nd Annual Computer Software and Applications Conference (COMPSAC), pp. 636-644. IEEE, 2018. (link to paper)
2. **Cao,Ganyuan**. "Estafette : A Parallelized Block Generation Protocol to increase scalability of cryptocurrencies". In 2018 Arizona State University CryptoRally poster session. (link to paper)
3. **Cao,Ganyuan**. "Computational Problems For Designing Asymmetric Cryptosystems". 2019. Arizona State University, Bachelor's Research Paper. (link to poster)

CERTIFICATES

1. Bitcoin and Cryptocurrency Technologies → Coursera
2. Blockchain → Coursera (link to certificate)
3. Cryptography I → Coursera (link to certificate)
4. Cryptography and Information Theory → Coursera (link to certificate)
5. Cyber Attack Countermeasures → Coursera (link to certificate)

ACADEMIC AWARDS

Dean's List Fall 2016 - Spring 2018, Spring 2019 - Spring 2020
Ir.A Fulton School of Engineering, Arizona State University