

# Yangyang Jiang

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## RESEARCH INTEREST

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Blockchain technologies, IoT security, Federated learning

## EDUCATION

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### Shanghai University

*M.E. in Communication and Information Systems*

Shanghai, CHN

September 2021 - June 2024

– GPA: 3.6

– Centesimal grade average: 87.67/100

### Henan University

*B.E. in Engineering in Electronic Information Science and Technology*

Henan, CHN

September 2017 - June 2021

– GPA: 3.49

– Centesimal grade average: 85/100

– Rank: 4/39

## RESEARCH EXPERIENCE

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### A Collaborative Inference Mechanism for Edge Intelligence in Edge-Cloud Coordination Laboratory Project

2023 - 2024

- Utilized Pedersen and FO commitment protocols, generated zero-knowledge proofs that allow device entities to authenticate and access data across domains anonymously. The protocol ensured that sensitive information is not exposed during the authentication process.

### Digital Cultural Relics Processing Cloud Platform for Cultural Relics Units National Key R&D Program of China (Grant No. 2020YFC1523004)

2021 - 2023

- Led the overall design of the blockchain architecture, overseeing the establishment of the consortium chain, and conducting corresponding benchmark performance testing to evaluate key metrics.
- Completed the coding of smart contracts by predefining trigger conditions for events, writing corresponding functional smart contracts, and deploying them to nodes within the consortium chain.
- Optimized consensus algorithms, specifically PBFT and other distributed consensus algorithms, to enhance security and throughput performance. Introduced a reputation fusion model and a node prediction model, incorporating a multi-layer communication structure to ensure the security and consistency of distributed transactions, thereby improving consensus efficiency.

### Deep Learning-Based Grotto Weathering Prediction Platform

National Key R&D Program of China (Grant No. 2019YFC1520500)

2021 – 2022

- Designed the upper-layer interface of a weathering prediction model based on Long Short-Term Memory networks (LSTM) for better integration with other systems. To enhance the usability and scalability of the model, constructed a corresponding microservices architecture, including key functionalities such as service registration and remote service invocation.

## SOFTWARE COPYRIGHT

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### A Data Encryption and Decryption Software Based on National Security Algorithm

Yangyang Jiang and Yepeng Guan\*

Registration Number: 2023SR1794932

### A Blockchain File Intelligent Automatic Configuration Software

Yangyang Jiang and Yepeng Guan\*

Registration Number: 2023SR0041209

## PUBLICATIONS

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- **A Cluster Reputation-based Hierarchical Consensus Model in Blockchain**  
Yangyang Jiang and Yepeng Guan\*  
*Peer-to-Peer Networking and Applications*, 2023. IF: 4.2(2023), Rank: Q2, Cited: 4.
- **Blockchain-assisted Cross-domain Zero-Knowledge Authentication for the Industrial Internet of Things**  
Yangyang Jiang and Yepeng Guan\*  
*IEEE Internet of Things Journal*, Under review.

## PEER REVIEW EXPERIENCE

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- Peer-to-Peer Networking and Applications

## SKILLS

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Programming	Python, Java, Solidity, Rust
English Proficiency	TOFEL(92),GRE(314)
Research Skills	Proficient in sofeware such as Latex, Endnote, Origin

## AWARDS & HONORS

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- **The First Level Academic Scholarship**, Shanghai University, 2023
- **The Second Level Academic Scholarship**, Shanghai University, 2022
- **The Third Level Academic Scholarship**, Shanghai University, 2021
- **2021 Outstanding Undergraduate Graduates**, Henan University, 2021
- **Henan University Scholarship**, Henan University, 2021
- **Three Good Students of Henan University**, Henan University, 2021
- **Provincial Second Prize in the 12th National Blue Bridge Cup Competition**, Henan University, 2020
- **Provincial Second Prize in the National College Student Mathematical Modeling Competition**, Henan University, 2018
- **National Computer Rank Examination Two Level C Language**, Henan University, 2018
- **The Third Prize in Mathematical Modeling Competition at Henan University**, Henan University, 2017

## SELECTED COURSES

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- **Postgraduate:**  
Digital Image Processing (90) , Statistical Detection and Valuation (88), Information Security Theory and Technology (87), Numerical Analysis (87), Advanced Science and Technology Innovation (87)
- **Undergraduate:**  
Linear Algebra (92), Complex Function (94), Computer Simulation and Analysis (87), Principles and Development of Embedded Systems (97), Specialized English (89), Digital Image Processing (93), Data Structure and Algorithm Analysis (90), Programmable Logic Control (88), Signal and System (93), Communication Electronic Circuits (94), Hardware Description Languag (86), Information Theory B (92), Analog Electronics (93)