Haochen Ren

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Education

Degree	Institute	Major	Grades	Year
Postgraduate	Tianjin University, Tianjin, China	Computer Science and Technology	3.46/4.00	2022-Present
Undergraduate	Ocean University of China, Qingdao, China	Computer Science and Technology	3.55/4.00 (13.21%)	2018-2022

Research Experience

- **Key Technologies and Experimental Verification of High-Performance Cross-Chain Interoperability** *Jun 2023 - Present*
  National Key Research and Development Program of China
  – Aiming to advance blockchain technology, this project develops key solutions for high-performance adaptive cross-chain interoperability and validates them through experiments in diverse fields.
  – Leading the design of the cross-chain resource discovery and addressing solution for blockchain as the project's lead researcher. Developed a data structure for verifiable queries across blockchains and published a relevant paper as the first author in ICDCS.
- **Blockchain Empowering Digital Freight** *Oct 2022 - Sep 2023*
  Local government industrial cooperation project
  – Incorporating blockchain as a multi-party regulatory platform into traditional freight systems to achieve intelligent network freight transport.
  – Led the development of the backend for the project, responsible for coding all backend programs.
- **H2Chain Permissioned Blockchain Transformation** *Oct 2021 - Dec 2022*
  Corporate collaboration project
  – Transforming H2Chain to permissioned chain with BSN standards.
  – Responsible for implementing and testing functionalities for the administrator role.
- **Intelligent Bird Recognition Application through Image Recognition** *Oct 2020 - Feb 2021*
  Android application development
  – Implemented an artificial intelligence based bird image recognition software.
  – Responsible for training the image recognition model and developing the Android app for this software.
- **Research on RAP detection tools** *Oct 2018 - Jun 2020*
  Student Research Developing Program
  – Find a way to implement a fake AP detection algorithm on Android mobile devices, and finally provide the necessary process to implement the algorithm and fully implement an Android tool that can detect fake APs.
  – As a member of the project team, participated in algorithm design and was responsible for the final development of Android tools.

Technical Skills

- **Programming Languages**: C/C++, Python, Go, JAVA
- **Tools and Frameworks**: Android Studio, Fabric, Jupyter
- **Operating Systems**: Windows, Linux & Android
- **Language Proficiency**: Passed CET4 (593) and CET6 (533) exams and achieved an IELTS score of 7.5.

Publications

- **Haochen Ren**, Xiulong Liu, Hao Xu, Chenyu Zhang, Keqiu Li, "CubeChain: Generalized Query Framework for Intra- and Cross-Chain Scenarios," in Proc. of the IEEE ICDCS, 2024.
- Chenyu Zhang, Xiulong Liu, Hao Xu, **Haochen Ren**, Keqiu Li, "Tide: Overcoming BFT Consensus Scalability Bottlenecks," in Proc. of the ACM CCS, 2024. (Under review)
- Sheng Chen, **Haochen Ren**, et al. "Blockchain-based data processing methods and electronic devices," Invention patent, CN117974146A, authorized.

Positions of Responsibility

- **Teaching Assistant**, Discrete Mathematics Course, Ocean University of China *2020-2021*
- **Minister of the APP Development Department**, IT Studio, Ocean University of China *2019-2020*
- **Class Leader**, Class of 2018 Outstanding Engineer Program, Ocean University of China *2018-2019*

Achievements

- **Tianjin University Graduate Scholarship**, Second-Class *2023-2024*
- **Tianjin University Graduate Scholarship**, First-Class *2022-2023*
- **Outstanding Thesis Award of Ocean University of China**, *2022*
- **Comprehensive Scholarship in the School of Information Technology**, Second-Class *2020-2021*
- **China Undergraduate Mathematical Contest in Modeling**, Provincial Second Prize *2020*
- **Comprehensive Scholarship in the School of Information Technology**, Second-Class *2019-2020*