Kuangyu Chen (3rd-year Undergraduate, Renmin University of China)

Contact Information

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Research Interests

- My research interests include quantum computing, database systems, computer architecture, distributed systems, and hardware acceleration.
- My current research focuses on optimizing the cardinality estimation process of query optimizers in database systems with neural subgraph isomorphism counting technology.

Education

Renmin University of China, Beijing, China

B.S., School of Information — Sept 2020 - Jul 2023 (Expected)

- Major: Computer Science
- GPA: 3.67/4.00
- Core Courses: Introductory Programming I, II (Honors Course): 98, 90; Probability and Statistics: 93; Graph Theory: 91; Introduction to Computer Systems I, II (Honors Course): 88, 88; Principles of Compiler Design: 88
- Language Proficiency: TOEFL 97
- Standard Test: GRE 322 (Q: 170)
- Awards: 2021 Mathematical Contest In Modeling: Meritorious Winner

Academic and Research Experience

EdgeNN: Efficient Neural Network Inference for CPU-GPU Integrated Edge Devices

Jul 2021 - Oct 2022

Research Assistant, Key Laboratory of Data Engineering and Knowledge Engineering, Renmin University of China, Supervisor: Feng Zhang, and Xiaoyong Du

- Proposed EdgeNN, the first neural network inference solution on CPU-GPU integrated edge devices.
- Utilized CUDA unified memory to conduct zero-copy optimization, and implemented CPU-GPU hybrid execution and fine-grained adaptive inference tuning approach to accelerate inference.
- Evaluated EdgeNN on four platforms varying in architecture, confirming its considerable advantages in performance speedup and energy efficiency.

Teaching Assistant: Introductory Programming II (Honors Course)

Mar 2022 - Jul 2022

Undergraduate, Renmin University of China, Supervisor: Yahui Sun

- Duties included leading weekly computer lab exercises and designing the course project.

Publications

[**ICDE 23**] "EdgeNN: Efficient Neural Network Inference for CPU-GPU Integrated Edge Devices"; Chenyang Zhang, Feng Zhang, **Kuangyu Chen**, Mingjun Chen, Bingsheng He, Xiaoyong Du; The 39th IEEE International Conference on Data Engineering (ICDE 2023).

Personal Profile

- Specialties: Database Systems, Parallel Computing, CPU-GPU Integrated Architectures
- Programming Language: C++, Python, CUDA, Verilog, SQL
- Language: English and Chinese