左璞凡

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EDUCATION

Northeastern University (Project 985/211, Double First-Class University)   2022年09月 - 2026年07月

Computer Science and Technology 本科   China

Fundamentals of C++Programming 92分
Mathematical Modeling 88分
Data Structures 90分
Network Fundamentals 91分
Database Principles 84分
Design Analysis of Algorithms 88分
Principles of Computer Organization 85分

RESEARCH INTERESTS

My primary research focuses on vector database architectures,hardware-software co-optimization and I/O optimization for large-scale data storage systems.I actively seek to integrate these core competencies with cutting-edge domains including: High-Performance Computing, LLM Applications, Machine/Deep Learning Research.

Publications and Preprints

https://arxiv.org/abs/2503.00402v1   2024年08月 - 2025年03月

Song Yu, Shengyuan Lin, Shufeng Gong, Yongqing Xie, Ruicheng Liu, Yijie Zhou, **Pufan Zuo**, Yanfeng Zhang, Ji Sun, Ge Yu. "Updating Graph-based Index with Fine-grained Blocks for Large-scale Streaming High-dimensional Vectors". Preprint, 2025.

PROFESSIONAL EXPERIENCE

CelerData(Powered by StarRocks)   2025年02月 - 至今

SaaS Team, StarRocks Division R&D   California，Menlo Park

- Designed and implemented data integration solutions tailored to ecosystem product requirements; proposed kernel-level optimization strategies to drive continuous improvement and upgrades of the StarRocks database engine.
- Led the integration of Apache Arrow and a high-performance RPC framework into StarRocks, resulting in a general query performance improvement of over $20\times$, with peak acceleration reaching $160\times$ in specific scenarios.
  - https://github.com/StarRocks/starrocks/pull/57956
- Designed, developed, and maintained ecosystem tools and BI connectors, including the StarRocks Tableau JDBC Connector and dbt-starrocks (an official StarRocks adapter for dbt); actively maintained and contributed to the open-source community.

Kuaishou Technology   2024年07月 - 2024年12月

DevOps, Infrastructure R&D Division Back End R&D   Beijing, China

- Contributed to the development of KDev, Kuaishou's in-house API testing platform, including task scheduling for KAPI (Kuaishou's internal API platform) to support automated data migration between versions and the cleanup of empty directories generated by the platform.
- Participated in the design of the HTTP API Swagger parsing framework, enabling the parsing of Swagger 3.0 specifications via OpenAPI to extract low-level data types and enumerated values.
- Implemented support for file upload types in the API mocking and proxy forwarding module, and introduced dynamic Kconf configuration with upload size limits of up to 200MB.

Meituan   2025年03月 - 2024年07月

Resource Scheduling Technology Center Back End R&D   Beijing, China

- Participated in the foundational development of Strategy Analysis Tool 2.0, a Meituan in-house ToB platform for business strategy evaluation and optimization.
- Utilized Lion, Meituan's distributed configuration management system, to dynamically adjust the UI layout of the 1.0 version and conduct A/B testing for strategy optimization, comparing different matching strategies across adjacent data slices to improve overall service quality.

- Mitigated the risk of large-scale data growth (250GB per table) by implementing sharding and tiered storage using MySQL for hot data and Blade (an internal storage system built on TiDB) for cold data management.

TutorEva   2023年01月 - 2024年03月
Department of Algorithms, Institute of AI Research Algorithm Engineer   Beijing, China

- Developed syntax parsing and semantic mapping algorithms for middle and high school mathematical expressions, enabling accurate interpretation and transformation of mathematical formulas.

- Improved and optimized the core framework and underlying algorithms for symbolic algebra computation, enhancing the system's accuracy, performance, and extensibility.
- Participated in the design and implementation of an automated problem-solving and logical reasoning framework based on Drools.

Yonyou Hong Kong   2023年11月 - 2024年01月
Testing & Development Department Test Development Engineer   Hong Kong，Wan Chai

- Participate in the quality assurance tasks of the marketing system, participate in project requirements review, write complete test cases and conduct testing.
- Read the source code of project, find and submit potential defects and loopholes, and assist the R&D team in solving project BUG.
- Participate in the development of automated api testing framework and improve the testing scenarios.

Research Experience

iDC-NEU Group   2024年07月 - 2025年03月
Research Intern

Mentors: Prof. Yanfeng Zhang and Prof. Shufeng Gong

Artificial Intelligence Laboratory of Northeastern University   2023年03月 - 2023年07月
Research Intern

Mentors: Prof. Miao Fang

ACHIEVEMENTS

Active contributor and maintainer in the StarRocks open-source community — a next-generation high-performance MPP (Massively Parallel Processing) database with 10K+ GitHub stars.   2025年02月 - 至今

National Third Prize, Intelligent Computing Innovation Design Track, Computer System Development Capability Competition   2024年07月 - 2024年11月

HUAWEI Student Developers(HSD)   2023年04月 - 至今

Head of Technology Department, ACM Chapter, Class of 2022   2023年03月 - 至今

Led a team of 10+ developers in organizing technical workshops, managing open-source projects, and mentoring junior members in system design.

SKILLS

Standardized Tests: TOEFL 103, GRE 332

Programming Languages & Libraries: C/C++, Python, Java, Golang, C#, CUDA, Bash/Shell, MATLAB, HTML, CSS, JavaScript, SQL, LaTeX, Markdown, Jinja2

Tools & Frameworks: SPDK, FIO, Spring (MVC/Boot), MPP, Flask, PyTorch, Linux/Unix, Docker, Git, MyBatis, Maven, Spring Security, Redis, EasyExcel, AOP, Spring Task, Nginx, MySQL, Selenium, JUnit, Pytest, Arrow Flight RPC, Spring Cloud, DBT, Drools, MongoDB, Dubbo, StarRocks