Hengming Zhang

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Education

Harbin Institute of Technology   Aug 2021 – June 2025
- BS in Bioinformatics, Dept of Computer Science
- GPA: 3.73/4.0

Experience

Research Internship   June 2023 – Feb 2024
- Harbin Institute of Technology, Harbin, China
- Multi-agent embodied intelligence Lab (Advisor: Fangzhou Liu)
- Research about deep learning used in Biological signal network to predict the transition of cell status

Courseworks

University: Data Structures and Algorithms, Algorithmic Design and Analysis, High-level Language Programming, Software Engineering, Linear Algebra and Analytic Geometry, Calculus, Probability Theory and Mathematical Statistics.

on-going: Application of AIGC Technology, Introduction to Large Language Models, Reinforcement Learning

Projects

Fast LBF   2024
- Improve the Bloom filter and add a pre-trained neural network discriminator to reduce the misjudgment cost of the Bloom filter
- Combined with various data structures (B+ tree, LSM tree) to improve database performance
- Tools Used: Python, pytorch

C minus compiler   2024
- Developed a compiler for simpler C style language, implement lexical analysis, grammatical analysis, syntax-directed translation and intermediate code generation
- Tools Used: C++, GNU Bison& Flex

Database Manage System   2003
- Use B+ tree as index structure and implement buffer pool management and record management
- Use volcano model to write query execution module
- Use blocking-based concurrency control protocol to implement transaction manager and lock manager
- Tools Used: C

Technologies

Languages: C++, C, Java, Python, R

Technologies: Numpy, Pytorch, Biopy, Sci-kit Learn

Awards and Honors

- Academic Excellence Scholarship for 2022 Fall semester
- Academic Excellence Scholarship for 2023 Fall semester
- Outstanding Undergraduate Innovation Project Award in Harbin Institute of Technology
- Excellent Award in National University of Singapore , SoC Summer School