

Zikun Wang

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EDUCATION

Boston University

Master of Science in Computer Science

Boston, MA

Aug. 2020 – Dec 2024

Boston University

Bachelor of Arts in Computer Science (Major GPA: 3.950)

Boston, MA

Aug. 2020 – Dec 2024

RESEARCH EXPERIENCE

A Disaggregated Stream Processing System for Heterogeneous Environments

Jan 2024 - Present

Advisor: Prof. Vasiliki Kalavri, Boston University. Prof. Ioannis Liagouris, Boston University

- Proposed a fully-disaggregated design for data stream processing system that decouples core data-plane and control-plane services, enabling non-blocking online reconfiguration without pausing the computation.
- Implemented a distributed streaming processor runtime in Golang that is able to run arbitrary user-defined data pipelines, using gRPC for networking.
- Developed a full test suite and a metric collection system to examine the performance of our runtime both in local and remote cloud environment. Integrated the metric package with Prometheus to allow developers to observe real-time telemetry.

Automatic Task Placement for Apache Flink

Oct 2023 - May 2024

Advisor: Prof. Vasiliki Kalavri, Boston University

- Implemented a task placement controller *CAPSys* for Apache Flink to efficiently delegate tasks to physical resources for data stream processing.
- Designed an adaptive task placement policy that ensures compute-intensive, I/O-intensive, and network-intensive tasks are balanced across available resources. When benchmarked against the state-of-the-art work, we achieved orders of magnitude lower computing time and up to 6× higher throughput with fixed resources.

Computational Assessment for Visuospatial Disorders

Sep 2023 - Present

Advisor: Prof. Vinoth Jagaroo, Emerson College and Boston University

- Developed a software for mapping visual fields tests (which was previously done by pen-and-paper), which provides a standardized method for researchers to perform tests that identifies visuospatial disorders.
- Implemented the system in Electron.js using React framework.

PUBLICATION

- Yuanli Wang, Lei Huang, **Zikun Wang**, Vasiliki Kalavri, and Abraham Matta. CAPSys:Contention-aware task placement for data stream processing. Proceedings of the Twentieth European Conference on Computer Systems (EuroSys 2025). 2025 (To appear).

TEACHING

Teaching Assistant | GRS CS 630 Graduate Algorithm | Boston University

Fall 2024

Course Grader | CAS CS 320 Concept Of Programming Language | Boston University

Fall 2022

FOCUSES

System Design: Distributed system. Streaming system. Cloud Computing.

Software Engineering: Fullstack Development for web applications.

Data System: Data provenance. System profiling.

TECHNICAL SKILLS

Programming Languages: Golang, Java, Python, C++, JavaScript (TypeScript), HTML/CSS, R

Frameworks: React, Next.js, Node.js, Flask, Django, gRPC

Developer Tools: Git, Docker, PyCharm, IntelliJ