Undergraduate Student Research Award (URA) - 2023

Project: Data Management on Modern Hardware

Recent hardware advances such as fast storage devices and manycore processors pose both opportunities and challenges for future database systems. The Data-Intensive Systems Lab at SFU Computing Science is investigating how to best leverage modern hardware to build efficient data systems that can support high transaction rates, low latency with high availability and reliability. The student will be supervised by Dr. Tianzheng Wang and work with a team of graduate students to explore existing work in related area, conduct surveys and validate prior ideas, propose new designs and implement the proposed systems. Specifically, the work will focus on devising efficient transaction processing and query processing paradigms using modern hardware and new programming language features. The student is also expected to conduct experiments, collect and analyze results and summarize main findings.

More information about the lab’s past and on-going work and supervisor can be found at https://github.com/sfu-dis and https://www.cs.sfu.ca/~tzwang.

Desired Qualifications:

- Solid systems programming skills in C/C++
- Solid foundation in database systems. Prior experience in developing database engine preferred.
- Experience in multi-threaded programming, lock-free algorithms and synchronization
- Good understanding of modern multi-core hardware

Application Process: Interested applicants should email Dr. Tianzheng Wang (tzwang@sfu.ca) with:

- Most recent transcript
- Curriculum Vitae

Deadline: This position will remain open until the position is filled.