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**Parallel
Computing
and I/O**

Performance Comparison of I/O Interfaces

There is a wide range of I/O interfaces available, including POSIX I/O, mmap [1], io_uring [2] and others. They have different interfaces and behaviors, warranting a closer look at potential performance differences. JULEA [3] is a flexible storage framework that allows offering arbitrary I/O interfaces to applications. To be able to rapidly prototype new approaches, it offers object, key-value and database backends. Support for popular storage technologies such as POSIX, LevelDB and MongoDB is already included.

As part of this thesis, you will implement new backends using, for example, mmap and io_uring and compare them with the existing POSIX backend.

1. › https://en.wikipedia.org/wiki/Mmap
2. › https://en.wikipedia.org/wiki/Io_uring
3. › https://github.com/julea-io/julea

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