



HPC Software Engineer

Why the HDF Group?

At The HDF Group, we do things that matter and are a force for the common good. Our mission is to make large complex data manageable and efficiently accessible, anywhere and indefinitely. We are doing that because we want to help communities of researchers advance science and engineering and enable companies and organizations to make better data-driven decisions faster. We sustain ourselves by maintaining high-quality open-source software complemented by support, training, development, and consulting services to raise funds to invest in ideas, conduct research, and spark innovation. Working with us is a vocation, not a career.

The Role

The HPC Software Engineer will be part of a team that develops and supports Hierarchical Data Format (HDF) technologies. This position focuses on the development of HPC data service libraries. High-performance storage and networking will be the primary focus of this position. The applicant for this position should have interest in API design and implementation, performance optimization, problem solving, and must be comfortable working with other team members. The HDF Group is based in Champaign, IL, which is the default job location, but remote work arrangements are available within the United States for suitable candidates. Compensation is commensurate with experience and qualifications.

Essential Job Functions and Key Responsibilities

- Design/implement new features (incl. supporting tests).
- Write technical documentation.
- Experiment with new technologies relevant to the area of development; recommend improvements to techniques, procedures or other aspects of technical development.
- Provide input for preventing future problems as well as incorporating solutions to current concerns.
- Publish work and attend technical conferences as requested.

Minimum requirements

- A Master's degree is required, preferably in computer science or software engineering (PhD's degree is preferred); experience and/or training may be considered depending on the nature and depth of the experience as it relates to current technologies.
- Excellent knowledge of C, including debugging tools (gdb, valgrind).
- Experience with POSIX I/O and network programming.
- Experience with multi-threaded programming.
- Strong theoretical background in data structures, computer architectures, compilers and algorithms.
- Ability to communicate clearly to all types of audiences – from the inexperienced to highly technical users.
- Strong oral and written communication skills.

Knowledge, Skills, and Abilities preferred

- Experience with production software development and maintenance, including Git/GitHub workflows and continuous integration systems.
- Knowledge/experience with distributed file systems (e.g., Ceph, Lustre, GPFS).
- Experience with InfiniBand verbs, OFI libfabric or UCX.
- Experience with MPI.
- Experience with software performance evaluation and enhancement.
- Experience with HDF5 and parallel I/O.
- Experience with using CMake as a build system.

To ensure full consideration, please submit a resume, cover letter, and references to jobs@hdfgroup.org. For additional information, refer to our website at www.hdfgroup.org.

The HDF Group is an Equal Opportunity Employer that recruits and hires qualified candidates regardless of race, color, religion, sex, sexual orientation, gender identity, age, national origin, disability, or veteran status.

In compliance with federal law, all persons hired will be required to verify identity and eligibility to work in the United States and to complete the required employment eligibility verification document form upon hire. The HDF Group uses [E-Verify](#) to verify employment eligibility as a qualifying federal contractor.

To comply with federal contracting guidance, The HDF Group employees must be fully vaccinated against COVID-19. If you cannot receive the vaccine for medical or religious reasons, you may seek approval for an exemption following applicable company processes.