Project Title: Developing Data-Intensive Analysis Tools

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Project Description

The student will develop GPU-friendly data-intensive analysis tools. Several specific projects are possible, depending on the student's interests and prior programming experience. Our group has developed the GooFit framework (see https://github.com/GooFit/GooFit) for doing maximum likelihood fits. Extending its functionality to add new data models is one possibility. Creating a python interface to the underlying C++ code is second. Helping re-build GooFit on top of the Hydra header-only C++ library (https://github.com/MultithreadCorner/Hydra) is a third. For all of these projects, the student should have prior experience programming in C++. Some knowledge of statistics will be useful, but it is not required.