William Markuske
SDSC Research Data Services

My role at RDS is as an HPC Systems Engineer to design, configure, and maintain HPC clusters for researchers that desire a more customer cluster than provided by TSCC or XSEDE. I provide support to research groups to determine required HPC resources and provide guidance to users on how best to use those resources. Currently, I am building a $400k cluster for a group in the School Medicine comprised of 12 standard compute nodes, 4 GPU based compute nodes, and 2PB of BeeGFS storage.

My own research involves optimization of workload management (SLURM) to improve system throughput for different classes of research problems. I'm also working to improve geonomics SNIP search algorithms through optimal data management and cluster throughput techniques.

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My goal at the Summer Institute is to reinforce my background in cluster usage and techniques for teaching cluster usage.

Furthermore, I am working on analyzing full cluster usage efficiency. My goal is to develop heuristics to improve cluster throughput by optimizing resource usage with hardware and software tuning.