

Preparation

UCSC:



UCSC's CSE Department offers undergraduate and graduate courses relevant to HPC such as: Distributed Systems (CSE138, CSE232), Computer Architecture (CSE120, CSE220), Parallel Programming (CSE113), Advanced Parallel Programming (CSE226), and Programmable Hardware Accelerators (CSE293).

Additionally, UCSC's Applied Math department has classes on Scientific Computing (AM129), High-Performance Computing (AM250) and GPU Programming (AM148), with many of these being introductory-level classes. This allows students from a multitude of backgrounds to gain exposure.

Lastly, UCSC's BME department has classes in Computational Biology (BME110), as well as bioinformatics Models (BME205/230A). Many of our team members have taken some combination of these classes, allowing us to share a variety of insights.

LBNL



Our team was successfully able to gain access to Lawrence Berkeley National Laboratory NERSC's Perlmutter through our advisor, Professor Beamer, which we utilized to prepare over the summer through various meetings. Everyone on the team was able to practice compiling, running and optimizing, HPL, HPCG, as well as MLPerf workloads.

Team Background

We are the ***Not-So-Slow-Slugs***, a play on UCSC's official mascot and our passion for high-performance computing.

We are a diverse group of engineers, with people in Applied Mathematics, Computer Science, Computer Engineering and Bioinformatics. Half of our team comprises first-generation immigrants from multiple countries, specifically, Russia, India, and the Philippines. Many of our team members have also tutored architecture and introductory CS classes, providing students with a gateway into the HPC community.

We are advised by Prof. Scott Beamer of the UCSC Hardware Systems Collective. He has provided significant guidance throughout the course of our HPC training and education. Being a part of Cal Bridge and the CAHSI, he also plays a large role in expanding computing participation and accessibility.

