

CS554 Project Ideas

GeMTC:Test - Automated Testing & Benchmarking Suite for the GeMTC project

Overview

This project is to develop a testing and benchmarking suite for the GeMTC framework. GeMTC already has a nightly build system, which pulls a fresh copy of the working code from a git repository each night at 3am. The results of the build are then emailed to the developers so they are able to catch bugs quickly. This project will extend the build system to also contain software tests. These tests will run GeMTC with a variety of inputs, and known outputs. If a failure occurs, emails should be sent to the development team. Results should also be posted to a website for quick viewing in the browser. Finally, charts/graphs/plots will be automatically generated from Linux command line tools to produce nightly benchmarking results, which should also be automatically published to the web.

Relevant Systems and Reading Material

GeMTC – <http://datasys.cs.iit.edu/projects/GeMTC>

Swift – <http://swift-lang.org>

Preferred/Required Skills

No GPU programming skills required!

Preferred: HTML, CSS, PHP, C, CUDA, gnuplot.

Required: C

Project Mentor



I am a 3rd year Ph.D. student and 2013 Starr/Fieldhouse Research Fellow from the Department of Computer Science at the Illinois Institute of Technology. I work as a Research Assistant in the Data-Intensive Distributed Systems Laboratory, a Teaching Assistant for the Department of Computer Science, and a Guest Researcher at Argonne National Laboratory.

I am involved in the GeMTC project, which aims to provide improved programmability and efficiency of hardware accelerators (GPGPUs, Intel Xeon Phi) in the Distributed Systems and High-Performance Computing spaces.

I received a Bachelors of Science in Computer Science from Creighton University (2010) and a Masters of Science in Computer Science from Loyola University of Chicago (2011).

More information can be found at <http://datasys.cs.iit.edu/~skrieder> and <http://datasys.cs.iit.edu>