



Marcus Zirece Frazier
B.S. Fisk University 2005
Major: Computer Science and Business
Administration

Faculty Advisor: Dr. Stephen Egarievwe

Program: Research Alliance in Math and Science

Email: frazierm@ornl.gov

Home: marcus_frazier4444@yahoo.com

Research Area: Computational Science and Mathematics

This project aims at investigating the advantages of and exploring the options for displaying performance data using ORNL's Everest visualization cluster and the Powerwall. The visualization cluster offers enhanced visualization capabilities, which are not available on conventional monitors. This is done by scaling the images seamlessly to a large number of screens, known as tiles, which are driven by advanced graphics cards. Software such as OpenGL and Chromium are used in order to display an image on the Powerwall. OpenGL, an industry standard API (Application Programming Interface), can be used to develop portable, interactive 2D and 3D graphics applications. Chromium is used to present OpenGL driven applications on tiled displays through the visualization cluster. A method used to view the performance data will be obtained by profiling and tracing large-scale scientific applications that are of interest to ORNL.

Research Mentors:

Dr. Jeffery S. Vetter
865 241-2650
vetterjs@ornl.gov

Dr. Philip C. Roth
865 241-1543
rothpc@ornl.gov

Dr. Sadaf R. Alam
865 574-1533
alamsr@ornl.gov

Future Technologies Group
Computer Science and Mathematics Division
Oak Ridge National Laboratory