Amy Knowles

Software Engineer

(555) 555 5555

blueberryboson.com

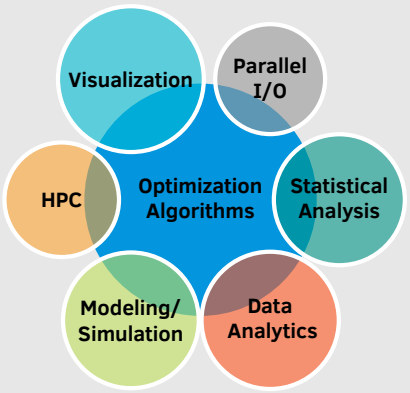
aeknowles@outlook.com

/in/blueberryboson

blueberryboson

Skills

Overview



Programming

0 *LOC* — 5000 *LOC*

C • C++ • Python

Cuda • MPI • OpenGL

Java • LaTeX

Projects

TourAR - An augmented reality University tour using Oculus technology
CMPS*5443 - An implementation of Laplace's algorithm in Cuda C
CMPS*5353 - A 3D museum architectural visualization rendered in OpenGL
CMPS*5333 - Simulated model of local drive-thru restaurant for discrete system analysis
SEE16 - Modeled satellite communication for large-scale international collegiate lunar base simulation organized by NASA

Education

2014 - 2017 **MS., Computer Science** (GPA: 3.7/4.0) — MSU, Texas

2000 - 2004 **BS., Marine Science & Field Biology** (GPA: 4.0/4.0) — TAMUCC, Texas

Research

2015 - 2017 **MS. Candidate, Graduate Research** — Midwestern State University

Thesis: Temperature Dispersion: Many-Core vs. Traditional Multi-Core Laplace Trasnsform Implementation

- Proposed portability of current multicore based weather simulations to a GPGPU environment. The Cuda method performs comparably with an MPI implementation and showed significantly less energy requirements.
- Constructed a Cuda Laplace implementation along with visualization of a weather simulation.
- **Tools**: Cuda, OpenGL, TACC-Maverick

Publications

B. Wei, A. Knowles, C. Silva, C. Mounce, and A. Enem, "When Asteroids Attack the Moon: Design and Implementation of an STK-Based Satellite Communication Simulation for the NASA-Led Simulation Exploration Experience," in Information Technology-New Generations, pp. 73-79, 2018.

E. Colmenares, A. Knowles, "A gentle introduction to GPU programming: conference tutorial," in Journal of Computing Sciences in Colleges, pp. 130, 32:4, 2017.

E. Colmenares, H. Wu, A. Knowles, "The pedogogical value and importance of applicable computational intensive scientific kernels in parallel computing: a case study," in Journal of Computing Sciences in Colleges, pp. 5-12, 32:4, 2017.

A. Knowles, E. Colmenares, "Temperature Dispersion: Many-Core vs. Multi-Core Laplace Transform Implementation," in PDPTA'17, pp. 184-187, 2017.

Experience

April 2017 - Present **CSE Instructor/ WiCS Lead** — New Mexico Tech

- Currently involved in building the Women in Computer Science program at New Mexico Tech University aimed at increasing the diversity of students, especially women and underrepresented minorities.
- Developed two new technical electives for the CSE Department - CSE*389 High Performance Computing, and CSE*389 3D Graphics with OpenGL
- Instructor for CSE*101 (Introduction to CS/IT), CSE*122 (Algorithms & Data Structures), CSE*107 (Introduction to CS - Python)

Aug 2014 - May 2017 **Graduate Assistant** — Midwestern State University

- GA for CMPS*1044 (CS1), CMPS*1063 (Data Structures & ADT), CMPS*4883 (Image Processing) and CMPS*2143 (OOP) courses
- TA for CMPS*1044 (CS1) and CMPS*1013 (Computing Concepts & Applications) courses

Oct 2010 - Aug 2014 **Meaningful Use Coordinator** — Clinics of North Texas

- Coordinated MU program bringing in over $1 million in government incentive funds, successfully recouping investment on electronic medical record system 2 years early