




# Amy Knowles


Software Engineer

 (555) 555 5555

 blueberryboston.com

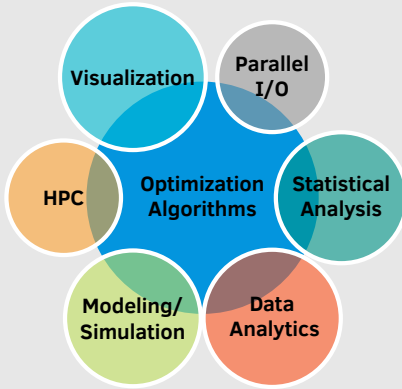
 aeknowles@outlook.com

 /in/blueberryboston

 blueberryboston

## 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 Transform 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 pedagogical 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 - **CSE Instructor/ WiCS Lead**

New Mexico Tech

Present

- 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 - **Graduate Assistant**

Midwestern State University

May 2017

- 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 - **Meaningful Use Coordinator**

Clinics of North Texas

Aug 2014

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