Majid Rasouli

Curriculum vitae

Room 3345, School of Computing
University of Utah
+1 (801) 9702921
rasouli@cs.utah.edu
www.linkedin.com/in/majid-rasouli/

Education

2015 – Present **Computer Science**
PhD Candidate, 3.86/4
University of Utah, USA

2011 – 2013 **Mathematics**
Masters, 3.63/4
Sharif University, Iran

2006 – 2011 **Mathematics**
Bachelors, 3.00/4
Recieved certificate of **top 3** graduates among 20
Amirkabir University, Iran

Software skills

Main	**C++ (3+ years** experience), git, MPI, OpenMP (Multithread)
Prototyping	MATLAB, Julia
Visualization	Paraview, Javascript, CSS, D3
Familiar	Python, R Studio, PySpark, Linux, Bash
Game Engine	Unreal Engine (Basic), Unity (Basic)

Research Interests

Linear Algebra

Scientific Computing

High Performance Computing

Parallel Algorithms

Video Game Development (Free Time)

Workshops

Jun 25 – 30, 2017 **IHPCSS17**
Attendee
University of Colorado

Aug 6 – 10, 2018 **SDSC Summer Institute**
Attendee
San Diego Supercomputer Center

Experiences

2015-Now **Graduate Research Assistant**
Dr. Hari Sundar's Lab
University of Utah

Fall 2016 **Teaching Assistant**
Probability and Statistics
University of Utah

Fall 2017 **Teaching Assistant**
Foundations of Data Analysis
University of Utah

Projects

Jan 2016 – Present

Developer
Saena

Saena is a highly scalable algebraic multigrid solver written in **C++** parallelized with *MPI* and *OpenMP*. I am the only developer under supervision of Dr. Hari Sundar.
https://github.com/majidrp/Saena

Accepted Paper

Developer
Matrix-Vector Product Optimization

Matrix-vector product is the most important operation in algebraic multigrid. We have optimized it in both shared and distributed memory. The paper is accepted in *IEEE HPEC18*.

Active Project

Developer
Lazy-update Algebraic Multigrid

For solving multiple linear systems with the same structure but slightly different values, three multigrid hierarchy updates are being studied to avoid redoing the whole setup phase, but paying the price of longer solve phase.

Active Project

Developer
Hybrid-precision Multigrid

Utilizing hybrid data structure precisions for different parts of algebraic multigrid to lower the communication and memory usage.

Available

Coder
USA Demographic Analysis

Used *Javascript*, *CSS* and *D3* to make a visualization for USA demography.
https://majidrp.github.io/DemographicAnalysis/