Majid Rasouli
Curriculum vitae

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University of Utah

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EDUCATION

2015 – PRESENT	**Computer Science**	PhD CANDIDATE *University of Utah, USA*
2011 – 2013	**Mathematics**	MASTERS *Sharif University, Iran*
2006 – 2011	**Mathematics**	BACHELORS *Amirkabir University, Iran*

SOFTWARE SKILLS

MAIN	**C++ (3+ years experience)**, MPI, OpenMP (Multi-thread), git
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

Algebraic Multigrid

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

`https://majidrp.github.io/DemographicAnalysis/`