

# Majid Rasouli

## Curriculum vitae

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### EDUCATION

- 2015 – PRESENT **Computer Science**  
PHD CANDIDATE, 3.86/4  
*University of Utah, USA*
- 2011 – 2013 **Mathematics**  
MASTERS, 3.63/4  
*Sharif University, Iran*  
*Ranked No.1 in Iran on QS*
- 2006 – 2011 **Mathematics**  
BACHELORS, 3.00/4  
RECEIVED CERTIFICATE OF  
**TOP 3** GRADUATES AMONG 20  
*Amirkabir University, Iran*  
*Ranked No.2 in Iran on QS*

### SOFTWARE SKILLS

- MAIN **C++ (3+ years experience)**, git,  
MPI, OpenMP (Multithread),  
SLURM
- PROTOTYPING MATLAB, Julia
- VISUALIZATION Paraview, Javascript, CSS, D3
- FAMILIAR Python, R Studio, PySpark,  
Linux, Bash
- GAME ENGINE Unreal Engine (Basic),  
Unity (Basic)

### HONORS AND AWARDS

- Certificate for Graduation as **Top 3 GPA's** Among 20 in 2006 Class, Bachelors in Mathematics
- Ranked in **Top 1 Percent** in The National University Entrance Exam for Masters Degree, 2011, Iran.
- Scholarship for International HPC Summer School 2017, University of Colorado, Boulder
- Scholarship for SDSC Summer Institute 2018, San Diego Supercomputer Center, UCSD

### WORKSHOPS

- 2017 **International HPC Summer School**  
ATTENDEE  
*University of Colorado – Boulder*
- 2018 **SDSC Summer Institute 2018**  
ATTENDEE  
*San Diego Supercomputer Center*

### SELECT COURSES

- UNDERGRAD Basic Programming (C),  
Advanced Programming (C++),  
Linear Algebra, Logic,  
Numerical Linear Algebra,  
Probability and Stat 1 & 2,
- GRADUATE Advanced Algorithms,  
Algorithms and Approximation,  
Parallel Computing HPC,  
Big Data Computer Systems,  
Advanced Scientific Comp 1 & 2,  
Inverse Problems, Visualization

### EXPERIENCES

- 2015-Now **Graduate Research Assistant**  
DR. HARI SUNDAR'S LAB  
*University of Utah*
- FALL 2016 **Teaching Assistant**  
PROBABILITY AND STATISTICS  
*University of Utah*  
*Helped students with R Studio*
- FALL 2017 **Teaching Assistant**  
FOUNDATIONS OF DATA ANALYSIS  
*University of Utah*  
*Helped students with Python to do basic Machine Learning*

### PROJECTS

[HTTPS://GITHUB.COM/MAJIDRP/SAENA](https://github.com/MAJIDRP/SAENA)

#### Developer *Saena*

*Saena* is a highly scalable algebraic multigrid solver written in **C++** parallelized with *MPI* and *OpenMP*. It does different linear algebra operations in serial and parallel. I have started this library as the only developer, under supervision of Dr. Hari Sundar, since Jan 2016.

ACCEPTED PAPER

#### Developer, Paper First Author *Matrix-Vector Product Optimization*

We have optimized matrix-vector product, which is the most important operation in algebraic multigrid. It is implemented in *Saena* (C++). The paper is accepted in **IEEE HPEC18**.

AVAILABLE

#### Coder *USA Demographic Analysis*

Used *Javascript*, *CSS* and *D3* to make a visualization for USA demography.

<https://majidrp.github.io/DemographicAnalysis/>

For more projects please check my linkedin page.