

**Objective:** Seeking summer internship as a Software Developer or Research Assistant

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## Education

2015 - Current	<b>PhD, Computer Science, University of Arizona</b> GPA: 3.75 Research: Automatic and optimized parallelization of irregular codes Advisor: Professor Michelle Mills Strout
2011 - 2014	<b>Master, Computer Science, Yazd University, Iran</b> GPA: 3.71 Thesis Title: Designing and Implementing a Distributed framework for SIFT Algorithm Advisor: Dr. Mehdi Rezaeian
2007 - 2011	<b>B.Sc., Information Technology, IASBS University, Iran</b> GPA: 3.15 Project Title: Using Image Processing Methods in Quality Control of Metal Plate Production

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## Professional Skills

- Professional **C/C++** Programming, **UNIX** System and Network Programming (**POSIX**)
  - GPU Programming (**CUDA**) and Parallel Programming (**OpenMP**, **Pthreads**)
  - Distributed Programming (**MPI**, **Hadoop**)
  - **Linux** System and Network **Administration**, **Java** and **Python** Programming
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## Projects and Work Experience

2015 - Current	<b>Graduate Research Assistant</b> , Computer Science Department, University of Arizona Advisor: Professor Michelle Mills Strout <ul style="list-style-type: none"><li>• <b>Current:</b> I am working on automatic and optimized wavefront parallelization of irregular computation (sparse matrices) based on simplifying data dependence relations used in inspectro/executor startegy.</li><li>• <b>Future:</b> I will be workin gon specializing expilicit data structures that are communicated between inspectors and executors in run-time while parallelizing and/or otherwise transforming irregular codes based on domain specific information.</li><li>• <b>The codes</b> that I have been developing in the research are being <b>integrated into IEGenLibrary</b> that is a publicly available library for operating on non-affine integer sets of equality and inequality constraints.</li></ul>
2013 - 2014	<b>Master Thesis</b> , Computer Science Department, Yazd University Supervisor: Professor Mehdi Rezaeian <ul style="list-style-type: none"><li>• I implemented SIFT image feature extraction algorithm for GPUs using CUDA framework and for multi-core processors using Pthreads.</li><li>• I implemented a distributed version of SIFT algorithm by distributing work over network of computers. I used Berkeley sockets and other POSIX libraries for implementation. All available resources in each system including multi-core CPUs and GPUs are utilized.</li><li>• My developed codes are available through my personal webpage.</li></ul>

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## Publication

2016	A. Venkat, M. S. Mohammadi, H. Rong, R. Barik, J. Park, M. M. Strout and M. Hall, "Automating Wavefront Parallelization for Sparse Matrix Computations," in Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis ( <b>SC16</b> ), Salt Lake City, Utah, 2016. [ <b>Best paper nominee</b> ]
2014	M. S. Mohammadi and M. Rezaeian, "Towards Affordable Computing: SiftCU a Simple but Elegant GPU-based Implementation of SIFT," International Journal of Computer Applications, vol. 90, no. 7, pp. 30-37, 2014.
2014	M. S. Mohammadi and M. Rezaeian, "Exhausting Resources with CPU/GPU Hybrid Distributed Systems: SiftD a Specialized Distributed System for SIFT," Technical report.
2013	M. S. Mohammadi and M. Rezaeian, "SiftD: A CPU & GPU Distributed Hybrid System For SIFT," in Seventh International Symposium on Telecommunication, ITRC, Tehran, 2014.
2013	M. S. Mohammadi, M. Rezaeian, "SiftCU: An Accelerated CUDA Based Implementation of SIFT," in Symposium on Computer Sci. and Software Eng., Sharif University, Tehran, 2013.

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## Teaching Experience

Fall 2010	<b>Teaching Assistant</b> , IASBS University Course Title: Machines and Languages Theory I
Spring 2009 Spring 2010	<b>Teaching Assistant</b> , IASBS University Course Title: Data Structures I
Winter 2009 Winter 2010	<b>Teaching Assistant</b> , IASBS University Course Title: Advanced Programming I
Fall 2009 Fall 2008	<b>Teaching Assistant</b> , IASBS University Course Title: Fundamentals of Computer and Programming
	<ul style="list-style-type: none"><li>• Held regular public Q &amp; A classes</li><li>• Designed and evaluated exercises &amp; Graded mid-terms and finals</li></ul>

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