

# Reza Karimi

Address: 400 Dowman Dr #W302, Atlanta, GA 30322

Email: rkarimi@emory.edu

Website: <https://0xreza.com>

<b>INTERESTS</b>	Distributed Systems, Operating Systems, Data Placement and Caching Algorithms, Event-Processing, Resource Scheduling and Performance Guarantees.	
<b>EDUCATION</b>	<b>Ph.D. in Computer Science</b>	Expected Completion 2021
	<b>M.Sc. in Computer Science</b>	2019
	<i>Emory University</i>	Atlanta, GA, US
	• Advisor: Ymir Vigfusson	
	• Thesis: <i>Tolerating Constraints when Optimizing Distributed Replication Systems.</i>	
	<b>M.Sc. in Computer Science - Distributed Systems</b>	2015
	<i>Iran University of Science and Technology</i>	Tehran, Iran
	• Thesis: <i>An Atomic-Multicast Middleware for Mobile Computing Environments.</i>	
	<b>B.Sc. in Computer Science - Software Engineering</b>	2012
	<i>University of Isfahan</i>	Isfahan, Iran
	• Honors Project: <i>Design and Implementation of a Task Scheduler for Android OS.</i>	
	<b>Middle School and High School in Mathematics and Physics</b>	2008
	<i>National Organization for Development of Exceptional Talents (NODET)</i>	Iran
<b>PROGRAMMING SKILLS</b>	Expert in C/C++, Python, Linux Kernel Programming, Network Programming, Bash, x86 Assembly, SQL, Java	
<b>EXPERIENCE</b>	<b>Graduate Research Assistant</b>	2016 – Present
	<i>SimBioSys Lab, Emory University</i>	Atlanta, GA, US
	• Focused on building distributed systems that tolerate resource constraints, where I identify opportunities for improving the performance of large-scale networked systems, whether in terms of processing time, cost or energy, by either finding and overcoming bottlenecks in existing systems or by crafting simple, tailored systems for the specific problem.	
	<b>Research Intern</b>	Summer 2019
	<i>The Max Planck Institute for Software Systems</i>	Saarbrücken, Germany
	• Supervisor: Dr. Jonathan Mace @ Cloud Software Systems Group	
	• Designed and implemented a highly efficient platform to serve deep neural network inference.	
	<b>Research Intern</b>	Summer 2018
	<i>Systems and Computer Engineering Institute – R&amp;D (INESC-ID)</i>	Lisbon, Portugal
	• Supervisor: Dr. João Barreto @ Distributed Systems Group	
	• Devised new memory allocation algorithms, tinkered with the Linux kernel, and developed new tools focused on making computations faster, cheaper and greener on NUMA machines.	
	<b>Teaching Assistant</b>	
	<i>Emory University</i>	Atlanta, GA, US
	• Systems Programming (Dr. Ken Mandelberg)	Fall 2017
	• Intro to Computer Science (Dr. Davide Fossati)	Fall 2016, Spring 2017
	<b>Research Assistant</b>	2012 – 2015
	<i>Distributed Systems Lab, Iran University of Science and Technology</i>	Tehran, Iran
	• Advisor: Prof. Mohsen Sharifi	
	• Designed and Implemented an atomic-multicast middleware for mobile computing environments. Participated in DEBS'15 grand challenge. Partially worked on unstructured p2p overlay networks.	

<b>HONORS AND AWARDS</b>	• <b>Distinguished Artifact Award</b> , USENIX OSDI'20.	Nov 2020
	• <b>USENIX Association Student Grant</b> , OSDI'20, Alberta, CA.	Oct 2020
	• <b>Ken C. Sevcik Outstanding Student Paper Award</b> , ACM SIGMETRICS'20.	Jun 2020
	• <b>GCP Research Grant</b> , Google for Education.	Mar 2020
	• <b>USENIX Association Student Grant</b> , NSDI'20, Santa Clara, CA, US.	Feb 2020
	• <b>Research Fellowship</b> , MPI-SWS, Saarbrücken, Germany.	May 2019
	• <b>Research Fellowship</b> , INESC-ID, Lisbon, Portugal.	Jun 2018
	• <b>Ph.D. Scholarship</b> , Emory University, Atlanta, GA, US.	Aug 2016
	• <b>Ranked top 0.2%</b> in the Iranian nationwide university entrance exam for MSc degree in Computer Science and Software Engineering.	Jun 2012
	• <b>Ranked top 2%</b> in the Iranian nationwide university entrance exam for BSc degree in Science and Engineering.	Jun 2008
• Received admission to the Iranian " <b>National Organization for Development of Exceptional Talents</b> " Middle school and High school.	2001 - 2008	
<b>PEER-REVIEWED PUBLICATIONS</b>	• <b>R. Karimi*</b> , A. Gujarati*, S. Alzayat, W. Hao, A. Kaufmann, Y. Vigfusson, J. Mace, " <i>Serving DNNs like Clockwork: Performance Predictability from the Bottom Up</i> " in USENIX Operating Systems, Design and Implementation (OSDI'20), Banff, Alberta, CA, 2020.	
	• L. Zhang, <b>R. Karimi</b> , I. Ahmad, Y. Vigfusson, " <i>Optimal Data Placement for Heterogeneous Cache, Memory, and Storage Systems</i> " in Proceedings of ACM SIGMETRICS'20, Boston, MA, USA, 2020. also appeared in Proceedings of the ACM on Measurement and Analysis of Computing Systems (POMACS), 2020.	
	• D. Gureya, J. Neto, <b>R. Karimi</b> , P. Romano, R. Rodrigues, V. Quema, P. Bhatotia, V. Vlassov, J. Barreto, " <i>Bandwidth-Aware Page Placement in NUMA Systems</i> " in International Parallel and Distributed Processing Symposium (IPDPS'20), New Orleans, LA, USA, 2020.	
	• J. Yang, <b>R. Karimi</b> , T. Saemundson, A. Wildani, Y. Vigfusson, " <i>Mithril: mining sporadic associations for cache prefetching.</i> " in ACM Symposium on Cloud Computing (SoCC'17), Santa Clara, CA, USA, 2017.	
	• <b>R. Karimi</b> , S. Fatholahzadeh, K. Teymourian, A. Hasan, A. Paschke, M. Sharifi, " <i>Parallel Event Processing on Unbound Streams with Multi-Step Windowing,</i> " in ACM Conference on Distributed Event-Based Systems (DEBS'15), Oslo, Norway, 2015.	
	• <b>R. Karimi</b> , A. Simpson, A. Kaufmann, Y. Vigfusson, J. Mace, " <i>Letting the Cloud Serve DNN Inferences with Ruthless Efficiency</i> " in Workshop on AI Systems (AISys) at Symposium on Operating Systems Principles (SOSP), Huntsville, Ontario, Canada, 2019.	
<b>PEER-REVIEWED POSTER PRESENTATIONS</b>	• J. Yang, <b>R. Karimi</b> , A. Wildani, Y. Vigfusson, " <i>A Simple Cache Prefetching Layer Based on Block Correlation</i> " in USENIX Conference on File and Storage Technologies (FAST), Santa Clara, CA, USA, 2017.	
	• J. Yang, <b>R. Karimi</b> , Y. Vigfusson, " <i>Mithril: Mining block correlation for cache prefetching</i> " in USENIX Symposium on Operating Systems Design and Implementation (OSDI), Savannah, GA, USA, 2016.	
	• <b>R. Karimi</b> , A. Simpson, A. Kaufmann, Y. Vigfusson, J. Mace, " <i>Letting the Cloud Serve DNN Inferences with Ruthless Efficiency</i> " in Workshop on AI Systems (AISys) at Symposium on Operating Systems Principles (SOSP), Huntsville, Ontario, Canada, 2019.	
<b>PROFESSIONAL SERVICE</b>	• <b>Shadow Program Committee Member</b>	2020
	<i>European Conference on Computer Systems (EuroSys'20), Edinburgh, Scotland, UK.</i>	
	• <b>External Reviewer</b>	2020
	<i>USENIX Workshop on Hot Topics in Cloud Computing (HotCloud'20), Boston, MA.</i>	
	• <b>External Reviewer</b>	2019
	<i>ACM/IFIP Middleware Conference (Middleware'19), Davis, CA.</i>	
	• <b>Volunteer Instructor, "Unveiling the Internet" Event</b>	2017, 2018, 2019
<i>Atlanta Science Festival, Atlanta, GA.</i>		
• <b>External Reviewer</b>	2019	
<i>USENIX Annual Technical Conference (ATC'19), Renton, WA.</i>		
• <b>External Reviewer</b>	2018	
<i>European Conference on Computer Systems (EuroSys'19), Dresden, Germany.</i>		
• <b>External Reviewer</b>	2017, 2018	
<i>ACM Symposium on Cloud Computing (SoCC).</i>		

**SELECTED  
RELEVANT  
COURSES**

*Graduate Level* • Distributed Systems • Cluster, Grid and Cloud Computing • Mining of Massive Datasets • Parallelizer Compilers • Advanced Compilers Design • Advanced Database Systems • Modeling and Evaluation of Computer Systems • Machine Learning • Data Mining • Data Privacy • Advanced Systems Design • Information Retrieval • Advanced Operating Systems • Algorithms • Advanced Unix Programming

*Undergraduate Level* • Operating Systems • Computer Networks • Concurrent Programming • Data Structures • Algorithms Design and Analysis • Internet Engineering • Database Systems • Machine Language and System Programming (Assembly) • Artificial Intelligence • Computer Architecture • Data Storage and Retrieval • Formal Languages and Automata Theory • Design and Implementation of Programming Languages • Compilers Design and Implementation • E-Commerce • Microprocessor Design • Logic Circuits • Discrete structures

**LANGUAGES**

Fluent in *English*, Native in *Persian*,  
Elementary proficiency in *German*.

**HOBBIES**

DYI Projects, Camping, Mountain Biking, Movies, Photography.