

# Behnam Pourghassemi

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## Education

- 2015 – 2020 **PhD in Computer Engineering**, *University of California, Irvine*.  
Advisor: Prof. Aparna Chandramowlishwaran
- 2015 – 2017 **Master in Computer Engineering**, *University of California, Irvine*.  
Advisor: Prof. Aparna Chandramowlishwaran  
Master Thesis: In-kernel Application-level Checkpoint/Restart Scheme for CUDA Applications
- 2011 – 2015 **B.Sc. in Electrical Engineering**, *Sharif University of Technology, Iran*.

## Research Area & Selected Courses

- research area Systems and Performance Analysis, High Performance Computing, Parallel Computing, Web Measurement
- selected courses Intro to HPC **(A)** System Software **(A)** Artificial Intelligence **(A)** Design & Analysis of Algorithms **(A)**  
Adv. Computer Architecture **(A)** Real Time Systems **(A<sup>-</sup>)** ASIC & FPGA **(A)** Embedded Systems **(A)**  
Advanced Programming **(A)** Parallel Computing **(Udacity)** Machine learning **(Udacity)**

## Work Experience

- summer 2018 **Internship**, *Research Engineer*, SAMSUNG SEMICONDUCTOR, Memory Solution Lab (MSL).  
Performance characterization of convolutional neural networks on DL frameworks. Leverage throughput of non-linear CNNs on GPU backend of TensorFlow via fine-grained resource allocation.
- summer 2014 **Internship**, *Software Engineer*, ARYA HAMRAH SAMANEH CO.  
Leverage existing solution for monitoring and profiling data-centers' real-time parameters by developing portlet and dashboard plugins on top of ZENOSS (open-source IT monitoring platform)

## Publications, patents and preprints

- **B. Pourghassemi**, A. Amiri Sani, and A. Chandramowlishwaran, "Only Relative Speed Matters: Virtual Causal Profiling", *under review* (IFIP Performance '20)
- **B. Pourghassemi**, J. Bonecutter, Z. Li, A. Chandramowlishwaran, "Impact of No Consent: Characterizing the Performance of Third-party Ads", *Accepted for one-shot revision* (SIGMETRICS '20)
- **B. Pourghassemi**, J. H. Lee, A. Chandramowlishwaran, "On the Limits of Parallelizing CNNs on GPUs", 32nd ACM Symposium on Parallelism in Algorithms and Architectures (SPAA '20)
- **B. Pourghassemi**, "Scalable Dynamic Analysis of Browsers for Privacy and Performance", ACM SIGMETRICS Performance Evaluation Review (PER '20)
- **B. Pourghassemi**, A. Amiri Sani, and A. Chandramowlishwaran, "What-If Analysis of Page Load Time in Web Browsers Using Causal Profiling", *Proceedings of the ACM on Measurement and Analysis of Computing Systems (SIGMETRICS '19)* Acceptance rate=15.6%, **nominated for best paper**
- **B. Pourghassemi**, J. H. Lee, and Y. S. Ki, "Platform for Concurrent Execution of GPU Operations", US Patent, (16/442,440), filed 2019
- **B. Pourghassemi** and A. Chandramowlishwaran, "CudaCR: An In-kernel application-level Checkpoint/restart Scheme for CUDA-enabled GPUs", *IEEE International Conference on Cluster Computing (CLUSTER '17)*
- B. Mostafazadeh Davani, F. Marti, **B. Pourghassemi**, F. Liu, and A. Chandramowlishwaran, "Unsteady Navier-stokes Computations on GPU Architectures," *23rd AIAA Computational Fluid Dynamics Conference (AIAA '17)*
- **B. Pourghassemi**, J. Chen, Z. Li, and A. Chandramowlishwaran, "Track the Crack: Automating Detection of Site Breakage from Content Blocking", *preprint*

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## Teaching Experience

### Teaching Assistant.

- winter '19 Algorithm & Data Structure
  - spring '15 Advanced Programming
  - fall '14 Logic Circuits
  - fall '14 Principles of Electrical Engineering
  - fall '14 Mathematical Engineering
  - spring '14 Digital Signal Processing
- 2010 – 2015 **Astronomy Tutor.**  
Teaching data analysis, astrophysics, celestial mechanics, spherical geometry in 5 high-ranked schools and Iran astronomy olympiad team

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## Honors & Awards

- Jan 2020 Selected Candidate for ACM SIGMETRICS Talented Young Researcher
- Sep 2019 ACM SIGMETRICS Travel Grant Award
- Sep 2017 IEEE Cluster Travel Grant Award
- 2015-16 UCI EECS Fellowship for Ph.D.
- Feb 2014 Sharif University Graduate Scholarship for MBA
- Oct 2011 Sharif University Dean's Honorary Award
- Aug 2011 Silver Medalist of International Olympiad on Astronomy and Astrophysics, Katowice, Poland
- Aug 2010 Gold Medalist of National Olympiad on Astronomy and Astrophysics

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## Skills

- Programming C/C++, CUDA, MPI, OpenMP, Python, Java, HTML, JavaScript
- Hardware GPU, FPGA, ARM
- Miscellaneous Linux, Git, Bash,  $\LaTeX$ , profiling/debugging tools (nvprof, perf, etc.), instrumenting large repositories (Google Chromium, TensorFlow, Coz profiler, etc.)

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## Services & Memberships

- Jun 2018 ACM SIGMETRICS Conference Student Volunteer Program, Irvine, California
- Aug 2017 IEEE Cluster Conference Student Mentor Program, Honolulu, Hawaii
- 2015-today Student Member of IEEE and ACM SIGHPC
- Sep 2013 Technical Committee of National 2<sup>nd</sup> Open Robotic Tournament
- 2010-2015 Gold-Member of Iran National Elite Foundation
- 2004-2011 Member of Iran National Organization for Development of Exceptional Talent (NODET)