

# Mohammad Mohsen Gavahi

Software Developer

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🏠 Department of Computer Science,  
Florida State University, Tallahassee, FL 32306

## Experiences

- Sep. 2017 to present
  - Research Assistant, Enhancing Data and Communication Security in HPC Clusters, FSU, FL.
    - Developing a modified version of MVAPICH empowered by cryptographic methods.
      - [github.com/gavahi/CryptoBench-InfiniBand](https://github.com/gavahi/CryptoBench-InfiniBand)
    - Developing optimized versions of MPI collective operations (Allreduce, Allgather, Bcast, ...) in which cryptographic schemes are embedded in them.
    - Utilizing Containers technology (Docker and Singularity) to enhance security in HPC.
- 2014 to Sep. 2017
- 2013 to 2014
  - Senior Software Developer, High Performance Computing, IPM, Iran
    - Developing Multicore Programming by Multi-processor and GPU
- 2011 to 2013
  - Software Developer, Ariana Institute, Iran
    - Developing academic purpose simulators
  - Research assistant, Sharif University, Iran
    - Energy-Aware Systems Laboratory
      - Developing Genetic algorithm on GPU
    - Storage Systems & Network Laboratory

## Research Interests

- High Performance Computing
- Parallel & Distributed Systems
- Multicore Programming

## Skills

C	★★★★★
C++	★★★★☆
C#	★★★★☆
Python	★★★☆☆

## Education

- 2017 to present
  - **Ph.D. student** Computer Science, Florida State University, Tallahassee, FL, USA
    - **GPA:** 3.64 out of 4.
- 2010 to 2012
  - **M.Sc.** Computer Architecture, Sharif University, Tehran, Iran
    - **GPA:** 3.4 out of 4.
- 2004 to 2009
  - **B.Sc.** Computer hardware engineering, Shahid Beheshti University, Tehran, Iran

## Publications

- 2019
  - **An Empirical Study of Cryptographic Libraries for MPI Communications**
    - 21<sup>st</sup> IEEE International Conference on Cluster Computing
- 2021
  - **Efficient Algorithms for Encrypted All-gather Operation**
    - 35<sup>th</sup> IEEE International Parallel & Distributed Processing Symposium (IPDPS)

## Programming Contest Honors

- 2015
  - Ranked 2<sup>nd</sup> of 13<sup>th</sup> Memocode Hardware/Software co-design International contest
    - [memocode.irisa.fr/2015/designcontest.html](http://memocode.irisa.fr/2015/designcontest.html)
- 2014
  - Ranked 1<sup>st</sup> of 12<sup>th</sup> Memocode Hardware/Software co-design International contest
    - [memocode.irisa.fr/2014/](http://memocode.irisa.fr/2014/)