

Mehran Sadeghi Lahijani

Contact Information	253 Love Building, Florida State University Tallahassee, FL 32306-4530	sadeghil@cs.fsu.edu http://ww2.cs.fsu.edu/~sadeghil/
Education	Florida State University , Tallahassee, FL Ph.D., <i>Computer Science</i> <i>Advisor: Prof. Xin Yuan</i> M. S. , <i>Computer Science</i> <i>Advisor: Prof. Ashok Srinivasan</i> Isfahan University of Technology , Isfahan, Iran B. S., Computer Engineering	2016 to Date Current GPA: 3.969/4 Fall 2019 2011 to 2016 (GPA: 17.28/20)
Research Interests	Parallel and High Performance Computing, Distributed and Parallel Systems, Algorithm Design and Development, Development and Performance Optimization of Scientific Applications	
Publications	<ul style="list-style-type: none">• Efficient Algorithms for the Encrypted Allgather Operation <i>M Sadeghi Lahijani, A Naser, C Wu, M Gavahi, V T Hoang, Z Wang, and X Yuan, submitted to the IPDPS'21</i>• CryptMPI: A Fast Encrypted MPI Library <i>A Naser, C Wu, M Sadeghi Lahijani, M Gavahi, V T Hoang, Z Wang, and X Yuan, submitted to the IPDPS'21</i>• GPU-Aware Pedestrian Dynamics Modeling <i>MS Lahijani, R Gayatri, T Islam, A Srinivasan, S Namilae, (Submitted to the Scientific Reports journal of Nature)</i>• From Bad to Worse: Airline Boarding Changes in Response to COVID-19 <i>Islam, T., Lahijani, M.S., Srinivasan, A., Namilae, S., Mubayi, A. and Scotch, M., Submitted to the Royal Society journal</i>• Performance Evaluation and Modeling of Cryptographic Libraries for MPI Communications <i>Abu Naser, Mehran Sadeghi Lahijani, Cong Wu, Mohsen Gavahi, Viet Tung Hoang, Zhi Wang, and Xin Yuan, submitted to the IEEE Transactions on Dependable and Secure Computing</i>• Constrained Linear Movement Model (CALM): Simulation of passenger movement in airplanes <i>MS Lahijani, T Islam, A Srinivasan, S Namilae, PLOS One, 2020</i>• Parallel Low Discrepancy Parameter Sweep for Public Health Policy <i>S. Chunduri, M. Ghaffari, MS Lahijani, A. Srinivasan, and S. Namilae. IEEE/ACM International Symposium on Cluster, Cloud, and Grid Computing (CCGrid), (2018)</i>• P4QS: A Peer to Peer Privacy Preserving Query Service for Location-Based Mobile Applications <i>IEEE Transactions on Vehicular Technology - M Ghaffari, N Ghadiri, MH Manshaei, MS Lahijani - May 2017</i>	
Research Experience	<ul style="list-style-type: none">• Data Insurance in the Cluster Environment(Advisor: Prof. Xin Yuan) Aug. 2019 to Present - FSU - Designed and developed efficient encrypted all-gather algorithms that achieve the theoretical bounds of different performance metrics for the encrypted all-gather operation. These encrypted all-gather algorithms perform even faster than the	

existing unencrypted MPI.Allgather algorithms for large messages on commercial HPC clusters.

- Developed a model for predicting the performance of encrypted MPI point-to-point communication on modern HPC systems.

- **Developing a Fast Decision-Support System for Public Health Policy-Analysis on Supercomputers**

(Advisor: Prof. Ashok Srinivasan) Sep. 2016 to Aug. 2020 - FSU

- Developed a GPU-Aware pedestrian dynamics model for simulation of passenger movements in airplanes that will be used for finding boarding/deplaning policies that can reduce the risk of epidemics during air-travel.

- The new model outperforms a well-known existing model by a factor of 120 on Frontera supercomputer by leveraging a novel GPU-aware modeling technique.

- **A Peer to Peer Privacy Preserving Query Service for Location-Based Mobile Applications**

(Advisors: Dr. N. Ghadiri & Dr. M. H. Manshaei) Sep. 2016 to Aug. 2020 - IUT

- Developed a peer-to-peer Android application, a server, and a simulator of virtual mobile devices. This novel approach preserves the privacy of users in location-based mobile applications.

Teaching Experience

Graduate Teaching Assistant, Florida State University

- Data Structures, Algorithms, and Generic Programming: Graded projects, Instructed recitations Fall 2017, Spring 2018, Summer 2018, Summer 2019
- Object-Oriented Programming: Graded projects, Instructed recitations Spring 2019
- Data and Computer Communications, [Graduate Course]: Graded assignments and projects Fall 2017
- Computer Proficiency: Grading and Admin TA of about 100 students Spring and Summer 2017

Teaching Assistant, Isfahan University of Technology

Spring 2015

- Artificial Intelligence
Designed and graded assignments

Lab Instructor, Isfahan University of Technology

Spring, Fall 2015

- Database Lab
Designed instructions, Mentored other instructors, Held lab sessions

Presentations

- Poster Presentation May 2017
Presented a poster of my research at Blue Waters Symposium 2017
Presented a poster of my research at FSU CSEXPo'19

Honors and Awards

- Won the first place in poster presentation and second place in research presentation at FSU CSEXPO 19 Winter 2019
- Admitted to Students Volunteer program of SC17 conference.
- Ranked 2nd group in ACM Spring Programming Contest at FSU Fall 2017
- Ranked 3rd group in ACM Spring Programming Contest at FSU Spring 2017
- Admitted to PhD program in Computer Science department at FSU and awarded

assistantship.

Fall 2016

- Ranked 5th, among 81 students in Computer Engineering undergraduate program at Isfahan University of Technology

2015