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[CV/Resume](#)

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Education

- Ph.D. in Aeronautics & Astronautics, University of Washington, Seattle, 2016
- M.Sc., Mechanical & Aerospace Engineering, University of California, Irvine, 2011
- B.Sc, Aerospace Engineering, Sharif University of Technology, 2008

Research Statement

My research is focused on developing distributed optimization algorithms and machine learning methods. I have applied these algorithms on classification problems in large scale data sets, control of autonomous multi-agent systems, i.e., unmanned aerial vehicles, and energy management in smart grids.

Work Experience

Research Intern (June 2014 - September 2014)

Microsoft Research & Cloud Machine Learning Algorithm Group, Redmond, WA

- Mentors: Dr. Misha Bilenko, Dr. Kenneth Tran, Dr. Lin Xiao

- Implemented a fast and reliable algorithm for large scale data sets, called Stochastic Dual Coordinate Ascent (SDCA), to be included in the [Microsoft Azure](#).
- Developed and implemented a fast and reliable parallel SDCA in Microsoft machine learning toolbox, The Learning Code, using multithreading
- Implemented a fast and reliable algorithm for feature selection and model compression in sparse data sets using SDCA.

Research Interests

- Optimization theory
- Distributed Machine Learning
- Large-Scale Data Analysis
- Energy Management
- Networked Systems Dynamic, Control, and Optimization
- Multi-agent Systems
- Control Theory
- Graph Theory
- Optimal Control Theory

Publications

1. Kenneth Tran, [Saghar Hosseini](#), Lin Xiao, Thomas Finley, Misha Bilenko, "[Scaling Up Stochastic Dual Coordinate Ascent](#)," 21st ACM SIGKDD Conference on Knowledge Discovery and Data Mining, 2015.
2. [Saghar Hosseini](#), Airlie Chapman, and M. Mesbahi, "[Online Distributed ADMM on Networks](#)," arXiv preprint, arXiv:1412.7116, 2014.
3. [Saghar Hosseini](#), Airlie Chapman, and M. Mesbahi, "[Online Distributed ADMM on Networks](#)," Automatica 2016. (submitted)
4. [Saghar Hosseini](#), Airlie Chapman, and M. Mesbahi, "[Online Distributed Optimization on Dynamic Networks](#)," *The IEEE Transactions on Automatic Control*, 2016 (Technical note)
5. [Saghar Hosseini](#), Airlie Chapman, and M. Mesbahi, "[Online Distributed Optimization on Dynamic Networks](#)," arXiv preprint, arXiv:1412.7215, 2014 (Full version)
6. [Saghar Hosseini](#), Airlie Chapman, and M. Mesbahi, "[Online Distributed ADMM via Dual Averaging](#),". In Proc. of the 53rd IEEE Conference on Decision and Control, 2014.

7. [Saghar Hosseini, Ran Dai, and M. Mesbahi, "Power Management of Cooling Systems with Dynamic Pricing"](#). In Proc. of the American Control Conference, 2014.
8. [Saghar Hosseini, Airlie Chapman, and M. Mesbahi, "Online Distributed Estimation via Adaptive Sensor Networks"](#), The IEEE Transactions on Control of Network Systems, 2013 (submitted)
9. [Saghar Hosseini, Airlie Chapman, and M. Mesbahi, "Online Distributed Optimization via Dual Averaging"](#),. In Proc. of the 52nd IEEE Conference on Decision and Control, 2013.
10. [Saghar Hosseini and M. Mesbahi, "Energy Aware Aerial Surveillance for a Long Endurance Solar-Powered UAV"](#),. In Proc. of the AIAA Guidance, Navigation and Control Conference., 2013.
11. [Saghar Hosseini, Ran Dai, and M. Mesbahi, "Optimal Path Planning and Power Allocation for a Long Endurance Solar-Powered UAV"](#),. In Proc. of the American Control Conference, 2013.
12. Ran Dai, Unsik Lee, [Saghar Hosseini](#), and M. Mesbahi, "[Optimal Path Planning for Solar-Powered UAVs Based on Unit Quaternions](#)", 3104-3109. In Proc. of the 51st IEEE Conference on Decision and Control, 2012.
13. [Saghar H.Sianaki, B.F. Villac, "An Exploration Of Fuel Optimal Two-Impulse Transfers To Cyclers In The Earth-Moon System"](#),. Advances in Astronautical Sciences 142; 3597-3612
14. Master thesis: "[An Exploration Of Fuel Optimal Two-Impulse Transfers To Cyclers In The Earth-Moon System](#),"

Honors and Awards

1. [Zonta International Amelia Earhart Fellowship](#) (awarded to 35 Fellows, pursuing advanced studies in the aerospace-related sciences, around the globe each year), May 2015
2. [Grace Hopper Celebration Scholarship Grant](#), The Anita Borg Institute for Women in Technology, July 2015
3. [Zonta International Amelia Earhart Fellowship](#) (awarded to 35 Fellows, pursuing advanced studies in the aerospace-related sciences, around the globe each year), May 2014
4. [Graduate School Top Scholars Awards](#), University of Washington, Aeronautics & Astronautics Department, (awarded to three graduate students each academic year), 2011-2012
5. [Society of women engineers](#), OC section scholarship, June 2011
6. [Graduate fellowship](#), Henry Samueli School of Engineering, University of California, Irvine, Summer 2011
7. [Holmes fellowship](#), Henry Samueli School of Engineering, University of California, Irvine, Fall 2010.
8. [Graduate fellowship](#), Henry Samueli School of Engineering, University of California, Irvine, 2009-2010

Projects

- [Distributed Online Optimization](#)
- [Adaptive Energy Management in Aerospace Systems](#)
- [Solar-Powered UAVs](#)

