

# YASSER YASAEI

215, Yale Blvd., SE, Apt 14, Albuquerque, NM, 87106  
(505) 450-7846, yasaiei.yasser@gmail.com

## SUMMARY

- ▷ Pursuing an interdisciplinary position in **Data Science** and **Dynamical Systems Theory**
- ▷ **Systems & Control** expert with extensive experience in **Statistical/Machine Learning**
- ▷ Technical expertise in **Model Predictive Control**, a.k.a. embedded/real-time optimization
- ▷ Acquired 8 years experience in Control Systems, 3 years in applied **Convex Optimization**
- ▷ Designed a novel real-time control platform for **Microgrids** to optimally integrate distributed energy resources

## EDUCATION

- ▽ PHD - SYSTEMS AND CONTROL Expected: MAR. 2016
  - ▷ Department of Electrical and Computer Engineering GPA: 3.81/4
  - ▷ University of New Mexico, Albuquerque, NM, USA Advisor: Prof. ANDREA MAMMOLI
  - ▷ Dissertation topic: Statistical Behavior of Distributed Microgrids with Cascading Model Predictive Control
- ▽ M.Sc. & B.Sc. - SYSTEMS AND CONTROL DEC. 2008
  - ▷ Department of Electrical Engineering GPA: 3.45/4
  - ▷ Sharif University of Technology, Tehran, Tehran, Iran Advisor: Prof. MASOUD KARIMI
  - ▷ Thesis topic: Analysis and Control Design for TCSC and PSS in an SMIB System Using Hopf Bifurcation

## TECHNICAL SKILLS

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| <b>Algorithms<br/>&amp;<br/>Applications</b> | <ul style="list-style-type: none"><li>▽ Designed a novel recursive dynamic programming procedure that optimizes the integration of distributed energy resources into a microgrid<ul style="list-style-type: none"><li>▷ Deployed BRANCH AND BOUND heuristic method for optimizing operation schedules</li><li>▷ Formulated DISCIPLINED CONVEX PROGRAMMING problems for real-time control</li><li>▷ Designed appropriate causal time filters to reduce computational costs</li></ul></li><li>▽ Obtained practical experience in LINUX, where<ul style="list-style-type: none"><li>▷ Deployed GNU PARALLEL PROGRAMMING application to execute hundreds of simulations simultaneously remotely on Linux-running high performance servers</li></ul></li></ul> |
| <b>Programming<br/>Languages</b>             | <ul style="list-style-type: none"><li>▷ Mastered MATLAB and PYTHON; implemented PhD dissertation level algorithms</li><li>▷ Course-based experiences in C++ and R</li></ul>   |

## PROFESSIONAL EXPERIENCE

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| <b>Research<br/>Assistantship</b> | <ul style="list-style-type: none"><li>▽ CENTER FOR EMERGING ENERGY TECHNOLOGIES<br/>Albuquerque, NM, USA JAN. 2013 - PRESENT<ul style="list-style-type: none"><li>▷ Conducted research on hierarchical cascading model predictive control mechanism to leverage distributed energy resources in decentralized power systems</li><li>▷ Collaborated on design of a novel fault detection mechanism for automated building ventilation systems</li><li>▷ Involved in development of a new probabilistic framework for characterization of precursors to WMD-induced cascading failures in the electric-cyber infrastructure</li></ul></li></ul> |
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## PROFESSIONAL EXPERIENCE - cont'd.

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Programming Staff	▽ TEHRAN PARSEH CORPORATION Tehran, Tehran, Iran ▷ Managed programming of an LCD screen for digital audio broadcasting receiver	SEP. 2006 - JAN. 2007
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## TEACHING & OTHER PROFESSIONAL EXPERIENCE

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Teaching Assistantship	▽ University of New Mexico Albuquerque, NM, USA ▷ Circuits Analysis I, Introduction to Communication Systems, Introduction to Electrical Engineering	JAN. 2011 - DEC. 2012
	▽ Sharif University of Technology Tehran, Tehran, Iran ▷ Linear Control Theory, Nonlinear Control Systems	SEP. 2006 - DEC. 2008
Project Assistantship	▽ SHARIF UNIVERSITY OF TECHNOLOGY Tehran, Tehran, Iran ▷ Implemented an extra precise compass to detect north direction in a navigation system using Global Positioning System (GPS)	SEP. 2006 - DEC. 2008

## HONORS AND AWARDS

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- ▷ Ranked 2<sup>nd</sup> among 15 M.Sc. students of electrical engineering, systems and control track, Sharif University of Technology, 2008
- ▷ Ranked 29<sup>th</sup> among more than 300,000 students in national entrance exam of universities in Iran, 2000

## PUBLICATION

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Published	▷ <b>Yasaei, Y.</b> , Robinett, R. D., & Mammoli, A. (2014, July). <i>Building ventilation system as a low-pass filter for intermittent photovoltaic electricity generation</i> . In Technologies for Sustainability (SusTech), 2014 IEEE Conference on (pp. 259-263). IEEE.
	▷ <b>Yasaei, Y.</b> , Karimi-Ghartemani, M., Bakhshai, A., and Parniani, M. (2010, July). <i>Design of a nonlinear power system stabilizer</i> . In Industrial Electronics (ISIE), 2010 IEEE International Symposium on (pp. 143-147). IEEE.
	▷ Ansari, R., Feyzi, M. R., Hamed, K. A., Sadati, N., <b>Yasaei, Y.</b> , Ouni, S. (2011). <i>Input-output linearisation of a fourth-order input-affine system describing the evolution of a three-phase/switch/level (Vienna) rectifier</i> . IET power electronics, 4(8), 867-883.
In the Pipeline	▷ <b>Yasaei, Y.</b> , Hayat, M., Mammoli, A., <i>Response of distribution feeder microgrids to system-level reserve requests</i> , submitted to IEEE PES-GM, 2016.
	▷ <b>Yasaei, Y.</b> , Mammoli, A., <i>A novel framework for characterizing the aggregated response of thermostatically controlled loads in distribution networks</i> , submitted to IEEE PES-GM, 2016.
	▷ <b>Yasaei, Y.</b> , Hayat, M., Mammoli, A., <i>Cascading model predictive control to determine statistical behavior of distributed microgrids for sysem-level services</i> , under preparation.