Yasser Yasaei

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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

Algorithms & Applications	▽ Designed a novel recursive dynamic programming procedure that optimizes the integration of distributed energy resources into a microgrid
	▷ Deployed BRANCH AND BOUND heuristic method for optimizing operation schedules
	▷ Formulated DISCIPLINED CONVEX PROGRAMMING problems for real-time control
	▷ Designed appropriate causal time filters to reduce computational costs
	▽ Obtained practical experience in LINUX, where
	▷ Deployed GNU PARALLEL PROGRAMMING application to execute hundreds of simulations simultaneously remotely on Linux-running high performance servers
Programming Languages	▷ Mastered MATLAB and PYTHON; implemented PhD dissertation level algorithms
	▷ Course-based experiences in C++ and R

Professional Experience

Research Assistantship	▽ Center for Emerging Energy Technologies
	Albuquerque, NM, USA Jan. 2013 - Present
	▷ Conducted research on hierarchical cascading model predictive control mechanism to leverage distributed energy resources in decentralized power systems
	▷ Collaborated on design of a novel fault detection mechanism for automated building ventilation systems
	▷ Involved in development of a new probabilistic framework for characterization of precursors to WMD-induced cascading failures in the electric-cyber infrastructure

PROFESSIONAL EXPERIENCE - cont'd.

Programming Staff	▽ TEHRAN PARSEH CORPORATION
	Tehran, Tehran, Iran — SEP. 2006 - JAN. 2007
	▷ Managed programming of an LCD screen for digital audio broadcasting receiver

TEACHING & OTHER PROFESSIONAL EXPERIENCE

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

HONORS AND AWARDS

▷ Ranked 2nd among 15 M.Sc. students of electrical engineering, systems and control track, Sharif University of Technology, 2008

▷ Ranked 29th among more than 300,000 students in national entrance exam of universities in Iran, 2000

PUBLICATION

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