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

▷ Ranked 29^{th} 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.