215, Yale Blvd., SE, Apt 14, Albuquerque, NM, 87106 (505) 450-7846, yasaei.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**

Department of Electrical and Computer Engineering

Department of Electrical Land Property of New Mexico, Albuquerque, NM, USA

Dissertation topic: Statistical Behavior of Distributed Microgrids with Cascading Model Predictive Control

∇ M.Sc. & B.Sc. - Systems and Control

Department of Electrical Engineering

⊳ Sharif University of Technology, Tehran, Tehran, Iran

▶ Thesis topic: Analysis and Control Design for TCSC and PSS in an SMIB System Using Hopf Bifurcation

### TECHNICAL SKILLS

# Algorithms &

Applications

- $\nabla$  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

# PROFESSIONAL EXPERIENCE

# Research Assistantship

**▽ CENTER FOR EMERGING ENERGY TECHNOLOGIES** 

Albuquerque, NM, USA

JAN. 2013 - PRESENT

Expected: MAR. 2016

Advisor: Prof. ANDREA MAMMOLI

Advisor: Prof. MASOUD KARIMI

GPA: 3.81/4

**DEC. 2008** 

GPA: 3.45/4

- > 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

 $\triangledown$  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

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<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**

#### 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.