

Daniel N. Mohsenizadeh, Ph.D.

EDUCATION

PhD in Mechanical Engineering (Control Theory), Texas A&M University	Sep 2010-May 2014
MS in Mechanical Engineering, Texas A&M University	Sep 2008-Aug 2010
BS in Mechanical Engineering, Shiraz University	Sep 2003-May 2007

EXPERIENCES

- **Carbon Inc.**

Sr. Control Systems Engineer 2018-present

- Constructing thermal models and control systems for 3D printers to accelerate printing process.
- Developing print planner software codes in C++, Lua, and Python.

- **Ford Motor Company - Product Development**

Control Systems Research Engineer 2016-2018

- Designed a virtual driver platform by controlling a linear actuator interfacing with the vehicle hardware.
- Developed vehicle dynamics models and real-time control systems to test and validate the design specs.
- Supported the advanced brake controls team on designing the next generation of braking systems integrable to autonomous vehicles and electric/hybrid cars.

- **Texas A&M University - Genomic Signal Processing Lab**

Associate Research Scientist 2014-2016

- Developed an optimal Bayesian experimental design approach to uncertain dynamical networks.
- Proposed a hybrid dynamical modeling approach for networks with dynamics uncertainty.
- Performed stochastic dynamical analysis and experimental design on the NIH database of human pathways.

- **Texas A&M University - Systems Control and Applied Optimization Lab**

Graduate Research Assistant 2010-2014

- Published a book on a new data-based approach to the analysis and design of linear systems.
- Developed a novel method, using convex optimization and SDP, to control systems transient response.
- Designed and implemented real-time control systems using PID control, lead-lag compensation, and LQR method, including a servomotor position/speed control, and a flexible link/joint robotic arm position control.
- Established the Control Engineering & Design lab for the first time in the EE Dept. at Texas A&M Univ.

SKILLS

- **Scripting Languages:** C/C++, Python, MATLAB, Lua, XML, HTML, CSS, LaTeX.
- **Software:** Simulink, Stateflow, LabVIEW FPGA, dSPACE, ANSYS, SolidWorks, Maple, Mathematica.
- **Environments/Tech:** Linux, Git, Docker, AWS, Jenkins, Splunk, Phabricator.
- **Controls and Robotics:** Broad knowledge in control theory (linear/nonlinear control, classical/modern control, optimal control, robust control, multivariable control, adaptive control), robotics, optimization, hybrid systems, machine learning, motion planning, algorithm design, signal processing, real-time control systems.

SELECTED AWARDS

- Ford Recognition Award, 2016-2017.
- IEEE CSS Young Researcher Registration Support Award, 54th IEEE Conf. on Decision and Control, 2015.
- LabVIEW CLAD Certification, National Instruments, 2015.
- Travel Award, 21st NIWeek Conf., 2015.
- First Place Post-Doctoral Award, 12th MCBIOS Conf., 2015.

SELECTED PUBLICATIONS

Books and Book Chapters

1. S. P. Bhattacharyya, L. H. Keel and **D. N. Mohsenizadeh**, *Linear Systems: A Measurement Based Approach*, Springer, 2013.
2. **D. N. Mohsenizadeh**, V. A. Oliveira, L. H. Keel and S. P. Bhattacharyya, "Extremal Results for Algebraic Linear Interval Systems", *Optimization and Its Applications in Control and Data Sciences*, Springer, 2016.

Journals

1. **D. N. Mohsenizadeh**, R. Dehghannasiri and E. R. Dougherty, "Optimal Objective-Based Experimental Design for Uncertain Dynamical Gene Networks with Experimental Error", *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, Vol. 15, Issue 1, Jan-Feb 2018, pp. 218-230.
2. **D. N. Mohsenizadeh**, J. Hua, M. Bittner and E. R. Dougherty, "Dynamical Modeling of Uncertain Interaction-based Genomic Networks", *BMC Bioinformatics*, Vol. 16, No. 13, Sep 2015, pp. S3.