Nicholas Moehle

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Education

- PhD Mechanical Engineering, Stanford University, September 2011–Present
  - ◇ Primary advisor: Stephen Boyd
  - ◇ Research interests: convex optimization, control systems
  - ◇ GPA: 4.04
- MS Electrical Engineering, Stanford, Sept. 2011–Dec. 2013
- BS Mechanical Engineering, UC Berkeley, Sept. 2006–Dec. 2010
  - ◇ GPA: 3.74

Publications

- N. Moehle, X. Shen, Z.Q. Luo, S. Boyd. *A Distributed Method for Optimal Capacity Reservation.* Submitted, Journal of Opt. Theory and Appl., 2017.
- N. Moehle, S. Boyd. *Value Function Approximation for Direct Control of Switched Power Converters.* Conf. on Industrial Electronics and Applications, 2017.
- R. Takapoui, N. Moehle, S. Boyd. *A Simple, Effective Heuristic for Embedded Mixed-Integer Quadratic Programming.* International Journal of Control, 2017.
- G. Banjac, B. Stellato, N. Moehle, P. Goulard, A. Bemporad, S. Boyd. *Embedded Code Generation Using the OSQP Solver.* Conf. on Decision and Control, 2017.
- M. Wytock, N. Moehle, S. Boyd. *Dynamic Energy Management with Scenario-Based Robust MPC.* American Control Conf. 2017.
- N. Moehle, S. Boyd. *Maximum Torque-per-Current Control of Induction Motors via Semidefinite Programming.* Conf. on Decision and Control, 2016.
- N. Moehle, S. Boyd. *Optimal Current Waveforms for Switched-Reluctance Motors.* Multi-Conference on Systems and Control, 2016.
- R. Takapoui, N. Moehle, S. Boyd. *A Simple, Effective Heuristic for Embedded Mixed-Integer Quadratic Programming* American Control Conf. 2016.
- N. Moehle, S. Boyd. *A Perspective-Based Convex Relaxation for Switched-Affine Optimal Control.* Systems and Control Letters. 2015.
- N. Moehle, S. Boyd. *Optimal Current Waveforms for Brushless Permanent Magnet Motors.* Int. Journal of Control. 2015.
- N. Moehle, *Covariance Estimation in Two-Level Regression* Conf. on Control and Fault Tolerant Systems, 2013.

Teaching

- Principal instructor:
  - ◇ Convex Optimization I (EE364A), Stanford, 2016
- Course assistant:
  - ◇ Stochastic Control Short Course, Chinese University of Hong Kong, Shenzen, 2017
  - ◇ Convex Optimization II (EE364B), Stanford, 2014
  - ◇ Convex Optimization I (EE364A), Stanford, 2014
  - ◇ Introduction to Linear Dynamical Systems (EE263), Stanford, 2013
  - ◇ Introduction to Optimal Control Theory (AA203), Stanford, 2013
  - ◇ Feedback Control Design (ENGR105), Stanford, 2013

Work Experience

- Ph.D. software engineer intern, Google, 2014
  - ◇ Implemented control algorithms for renewable energy applications.
- Research intern, Robert Bosch LLC, 2011
  - ◇ Led a research initiative for high-efficiency heat-pumps.
- Plant modeling intern, Halotechnics, 2011
  - ◇ Wrote thermodynamic modeling software.

Software

- `cvxpy-codegen`, a tool for deploying custom solvers for convex optimization.

Skills

- Software languages: Python, Julia, Matlab, C.