Daniel J Calderone

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EDUCATION & RESEARCH

PhD - Elec. Engineering, UC Berkeley
May 2017, GPA: 3.82/4.0
Advisor: Prof. S. Shankar Sastry

Postdoc - ECE/AA , Univ. Washington
Jan 2018 - Dec 2019
PI: Lillian Ratliff, Behcet Ackimese

BS - Mech. Engineering, Univ. Maryland, College Park
May 2010, GPA: 3.98/4.0, Summa Cum Laude

THESIS

Models of Competition for Intelligent Transportation Infrastructure: Parking, Ridesharing, and External Factors in Routing Decisions

RESEARCH AREAS

Stochastic population games, routing games
Linear algebra visualization
Convex and nonlinear optimization
Dynamic game theory

TEACHING EXPERIENCE

INSTRUCTOR - University of Washington
Course materials: danjcalderone.github.io/teaching.html

Linear Systems Theory/Linear Algebra (×4)
MS-Level: AE510 – Win2020, Win2021, Win2022
PhD-level: AA510 – Fall2020

Convex Optimization
MS-level: ECE578B – Win2021 (new course)

Multivariable Control (×2)
MS-Level: AE513B – Fall2019, Fall2021,

Estimation and Kalman Filtering (×3)
MS-Level: AE514 – Fall2020
PhD-Level: AA549A – Spr2019 (co-taught), Spr2021

Control Theory
BS-Level: AA447 – Spr2021

Robust Control
PhD-Level: AA594 – Win2022

TEACHING ASSISTANT - UC Berkeley
Robotic Manipulators
BS-Level: EE125 – Fall2013 (lectured and designed labs)

EE Intro Survey Course
BS-Level: EE16A – Fall2015 (lead content development team)

PAPERS

Markov Decision Process Routing Games, ICCPS 2017
Infinite Horizon Average-Cost Markov Decision Process Routing Games, ITSC 2017
Multi-Dimensional Continuous Type Population Potential Games, CDC 2019
Stability of Gradient Learning Dynamics in Continuous Games: Scalar Action Spaces, CDC 2020
Sensitivity Analysis for Markov Decision Process Congestion Games, CDC 2019
Online Constraint Satisfaction via Tolls in MDP Congestion Games, TCNS (submit.)
Tolling for Constraint Satisfaction in MDP Congestion Games, ACC 2019
External-Cost Continuous-Type Wardrop Equilibria in Routing Games, ITSC 2017
Understanding the Impact of Parking on Urban Mobility via Routing Games on Queue-Flow Networks, CDC 2016
Lane Pricing via Decision-Theoretic Lane Changing Model of Driver Behavior, CDC2015
Pricing for Coordination in Open-Loop Differential Games, IFAC 2014
Pricing Design for Robustness in Linear-Quadratic Dynamic Games, CDC 2013
Energy Management via Pricing in LQ Dynamic Games, ACC 2013
Pricing in Linear-Quadratic Dynamic Games, Allerton 2012
Details: danjcalderone.github.io/research.html

SKILLS / SOFTWARE

Languages: Python, JavaScript, MATLAB
Packages: cvxpy, pandas, CVX, YALMIP

PREVIOUS WORK EXPERIENCE

eBay Advertising, Brisbane/San Jose, CA
Intern, Summer-Fall 2014
Data analytics for predicting impact of online advertising on eBay sales.

Army Research Lab, Adelphi, MD
Intern, Summer 2009
Investigated biological systems for low power communications in small robotic platforms.

Johns Hopkins Applied Physics Lab, Columbia MD
Intern, Summer 2008
Finite element modeling of human torso for studying blast trauma.

Alfred Gessow Rotorcraft Center, UMD, College Park
Intern, Summer 2007
Assisted with fabrication of experimental helicopter rotors for hover-stand test.

OTHER EXPERIENCE

EE Graduate Outreach Program (UCB) - Spring 2013-Fall 2016
EEGSA Co-President (UCB) - Fall 2013-Spring 2014
EEGSA Visit Day Student Coordinator (UCB) - Spring 2013
Resident Assistant (UMD) - Fall 2008-Spring 2010
Student Honor Council Member (UMD) - Fall 2007-Spring 2008