

Ramón Darío Iglesias

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EDUCATION

STANFORD UNIVERSITY <i>Ph.D. in Civil Engineering</i> Autonomous Systems Laboratory (ASL) - Advisor: Marco Pavone Focus: Optimal Control of Autonomous Fleets.	01/2016-06/2019 (EXPECTED)
STANFORD UNIVERSITY <i>M.S. in Civil Engineering</i> Focus: Construction Data Analysis and Optimization.	09/2012-06/2014
THE UNIVERSITY OF TEXAS AT AUSTIN <i>B.S. in Civil Engineering</i>	08/2007-06/2012

RECENT EXPERIENCE

STANFORD UNIVERSITY, Stanford, CA <i>Researcher</i> Devising methods to model and control large fleets of autonomous vehicles (Autonomous Mobility-on-Demand, or AMoD). Recent work includes: developing a queueing-theoretical framework to characterize AMoD systems, using network flow theory to optimize the interaction between fleets of autonomous electric vehicles and the power grid, and leveraging deep learning and optimal control theory to forecast and control in real-time large fleets of autonomous vehicles.	1/2016-PRESENT
SUNPOWER, Richmond, CA <i>Financial Software Engineer</i> Architected and developed software for the Financial Products team. Sample work: Building and migrating to a new pricing engine built in Python and deployed in Amazon Web Services (reduced the cost of the residential pricing engine by 80% and the response time by 90%); Developed an internal data processing web application to run and visualize complex financial analyses; Architected and implemented the DevOps pipeline for the Financial Products team.	01/2015-01/2016
STANFORD UNIVERSITY, Stanford, CA <i>Researcher</i> Developed methods to model contractor operational costs into wind farm layout design, and devised algorithms to optimize wind farm building schedules. Sample work includes: Building predictive model to forecast the expected number of days lost due to high winds by month and the best hours of the day to work each month using Markov models trained on past hourly wind data; Optimizing crane path schedules for wind farm erection; Optimizing wind farm layout while considering erection costs and life-time revenue; Building a web application that contractors can use to leverage the aforementioned methods.	10/2013-12/2014

SKILLS

SOFTWARE:	Python (Numpy, Pandas, Tensorflow, Flask), Javascript (AngularJS, D3, Leaflet), R, MATLAB; AWS, Git, Docker, CircleCI, PostgreSQL, L ^A T _E X
COURSEWORK:	Machine Learning, Data Mining, Decision Making under Uncertainty, Optimization, Deep Learning, Data Visualization, Optimal Control, Web Development
LANGUAGES:	Spanish (native), English (fluent), German (intermediate)

PUBLICATIONS

- [1] R. Iglesias, F. Rossi, R. Zhang, and M. Pavone, "A BCMP network approach to modeling and controlling autonomous mobility-on-demand systems," *Int. Journal of Robotics Research*, 2017, submitted.
- [2] —, "A BCMP network approach to modeling and controlling Autonomous Mobility-on-Demand systems," in *Workshop on Algorithmic Foundations of Robotics*, 2016.
- [3] F. Rossi, R. Iglesias, M. Alizadeh, and M. Pavone, "On the interaction between autonomous mobility-on-demand systems and the power network: models and coordination algorithms," in *Proc. IEEE Conf. on Robotics and Automation*, 2018, submitted.
- [4] R. Iglesias, F. Rossi, K. Wang, D. Hallac, J. Leskovec, and M. Pavone, "Data-driven model predictive control of autonomous mobility-on-demand systems," in *Proc. IEEE Conf. on Robotics and Automation*, 2018, submitted.