Ramón Darío Iglesias

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Education

Stanford University 01/2016-06/2019 (Expected)
Ph.D. in Civil Engineering
Focus: Optimal Control of Autonomous Fleets.

Stanford University 09/2012-06/2014
M.S. in Civil Engineering
Focus: Construction Data Analysis and Optimization.

The University of Texas at Austin 08/2007-06/2012
B.S. in Civil Engineering

Experience

SunPower, Richmond, CA 01/2015-01/2016
Financial Software Engineer
Reduced the cost of the residential pricing engine by 80% and the response time by 90% by building and migrating to a new pricing engine built in Python and deployed in Amazon Web Services.
Enabled non-programming analysts to run complex financial analyses, and automated the process of cleaning, storing and visualizing existing lease information by building an internal web application using the existing financial code base, writing cleaning scripts and a task/queue system.

Stanford University, Stanford, CA 07/2014-12/2014
Graduate Researcher
Enabled contractors to visually and quantitatively gauge the risks of working days lost due to high winds by building a web application that predicts the expected number of days lost by month and the best hours of the day to work each month by training a discrete time-inhomogeneous Markov model using past hourly wind data.
Automatically generated crane path schedules for wind farm erection by developing a web application that processes GIS files and user cost input to build and solve a Traveling Salesman Problem.

Research Experience

Stanford University 1/2016-Present
Control of Autonomous Mobility-on-Demand Systems
Modeled the operation of an autonomous taxi fleet as a queueing network and developed an asymptotically optimal algorithm for routing and rebalancing the vehicles. Validated this approach by testing it on a model of Manhattan using the NYC Taxi dataset. Results will be presented at the 2017 International Workshop on the Algorithmic Foundations of Robotics.

Stanford University 10/2013-05/2014
Wind Farm Layout Optimization
Reduced wind farm construction costs by 6% by developing, as part of a multidisciplinary team, a method to parametrize construction cost, and optimize wind turbine layout and construction schedule.

Selected Projects

groupstats.io 08/2015-12/2015
Side Project
Designed the architecture, and built frontend and backend features for *groupstats.io*, a web application that allows users to visually analyze the dynamics of their Whatsapp chats.

Let's Get Weird 11/2014-01/2015
Startup Weekend
Built a mobile app to share pictures with nearby people during the peak nightlife hours.

Skills

Software: Python, Javascript, R, MATLAB; AWS, Git, AngularJS, Docker, CircleCI, LaTeX

Languages: Spanish (native), English (fluent), German (intermediate)

[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.