

EDUCATION

STANFORD UNIVERSITY <i>Ph.D. in Civil Engineering</i> Focus: Optimal Control of Autonomous Fleets.	01/2016-PRESENT
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

EXPERIENCE

SUNPOWER, Richmond, CA <i>Financial Software Engineer</i> Reduced 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.	01/2015-01/2016
STANFORD UNIVERSITY, Stanford, CA <i>Graduate Researcher</i> 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. 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.	07/2014-12/2014

RESEARCH EXPERIENCE

STANFORD UNIVERSITY <i>Control of Autonomous Mobility-on-Demand Systems</i> 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.	1/2016-PRESENT
STANFORD UNIVERSITY <i>Wind Farm Layout Optimization</i> Reduced by 5% the cost of a 250 MW wind farm by parametrically modeling the construction costs and optimizing the turbine layout.	10/2013-05/2014

SELECTED PROJECTS

GROUPSTATS.IO <i>Side Project</i> Designed the architecture, and built frontend and backend features for <i>groupstats.io</i> , a web application that allows users to visually analyze the dynamics of their Whatsapp chats.	08/2015-12/2015
LET'S GET WEIRD <i>Startup Weekend</i> Built a mobile app to share pictures with nearby people during the peak nightlife hours.	11/2014-01/2015

SKILLS

SOFTWARE:	Python, Javascript, R, MATLAB; AWS, Git, AngularJS, Docker, CircleCI, \LaTeX
LANGUAGES:	Spanish (native), English (fluent), German (intermediate)