RACHEL MOGLEN

https://rmoglen.github.io/ 204 E Dean Keeton St, Austin, TX 78712 rmoglen@utexas.edu

EDUCATION

University of Texas, Austin, TX
Ph.D. Operations Research and Industrial Engineering, GPA: 4.0 — Fall 2019 – Present

University of Maryland, College Park, MD
M.S. Mechanical Engineering, GPA: 3.80 — Fall 2017 – Spring 2019
B.S. Civil and Environmental Engineering, GPA: 3.68 — Fall 2013 – Spring 2017

EIT Environmental Engineering, MD — June 2017

AWARDS AND SERVICE

Cockrell School of Engineering Fellowship, University of Texas at Austin — Fall 2019 – Spring 2020

INFEWS Scholar, University of Texas at Austin — Fall 2019 – Present
- Selected to participate in A National Science Foundation Research Traineeship (NRT) focused on Innovations at the Nexus of Food-Energy-Water Systems (INFEWS)

Scientific Committee Member, Trans-Atlantic Infraday Conference — Fall 2018, Fall 2019
- Helped organize an international conference with 30 presentations and approximately 80 attendees

INFORMS Student Chapter MEGSB Representative, University of Texas at Austin — Fall 2019 – Present
- Representing ORIE program concerns to the Mechanical Engineering Student Board

Society of Women in Engineering Mentor, University of Texas at Austin — Fall 2019 – Present

Dean's M.S. Research Award Competition Department Finalist, University of Maryland — Spring 2019

Engineering Honors Student, University of Maryland — Spring 2016 – Spring 2017

College of Engineering Most Outstanding Research Award, University of Maryland — Spring 2017

RESEARCH AND PROFFESIONAL EXPERIENCE

University of Texas at Austin, Austin, TX — Fall 2017 – Present
Research Assistant for Dr. Benjamin Leibowicz — ***Python***
- Studying optimization of the Food-Energy-Water Nexus for a resilient, sustainable, economical future

Washington Gas, Springfield Virginia — Summer 2019
Pipeline Risk Intern for the Distribution Integrity Management Team — ***R, ArcGIS***
- Developed ArcGIS-based risk model for natural threats to natural gas distribution pipelines
- Created scripts in for extracting relevant natural features

University of Maryland, College Park, MD — Fall 2017 – Spring 2019
Research Assistant for Dr. Steven Gabriel — ***R, Python***
- Applied Stochastic and Deterministic Optimization to the energy sector for improved flexibility
- A 3-minute video describing my research can be found here

University of Maryland, College Park, MD — Spring 2018, Spring 2019
Teaching Assistant for Simulation and Design of Experiments — ***R, MATLAB***

Whisker Labs, Germantown, MD — Summer 2017
Research and Development Intern for Demand Response Team — ***Python, R, AWS***
- Coded and deployed tool on AWS Lambda to notify users of extreme energy prices in ERCOT

University of Maryland, College Park, MD — Fall 2016 – Spring 2017
Research Assistant for Dr. Kaye Brubaker — ***MATLAB***
- Developed life cycle predictive model of algae bloom probabilities on the Chesapeake Bay

LimnoTech, Washington, D.C. — Summer 2016
Engineering Intern for a Water Resources Consulting Firm — ***ArcGIS, Excel***
- Researched and documented data sources as part of a Harmful Algal Bloom (HAB) modeling project

RELEVANT COURSES

Production and Inventory Control	Applied Machine Learning
Probability and Statistics	Operations Research Models
Simulation and Design of Experiments	Applied Multivariate Analysis
Probabilistic Optimization	Microeconomics
Multivariate Statistical Analysis	Decision Analysis

PRESENTATIONS

A Deterministic and Stochastic Dynamic Programming Approach to Demand Response Planning Nov 2018
Trans-Atlantic Infraday Conference
Federal Energy Regulatory Commission, Washington, DC

Using Dynamic Programming for Real-Time Residential Demand Response Scheduling Nov 2018
Invited Lecture for Probabilistic Optimization (Graduate-level course)
University of Maryland, College Park, MD

Using Dynamic Programming for Real-Time Residential Demand Response Scheduling May 2018
Computational Management Science Conference
Norwegian University of Science and Technology, Trondheim, NO

Bloom and Bust: Modeling *Karlodinium veneficum* Growth Dynamics May 2017
Undergraduate Engineering Honors Thesis Presentation
University of Maryland, College Park, MD

PUBLICATIONS

Chanpiwat, P., Gabriel, S. A., **Moglen, R. L.,** and Siemann, M. J. (2020). Using Cluster Analysis and Dynamic Programming for Demand Response Applied to Electricity Load in Residential Homes. ASME. J. Eng. Sustain. Bldgs. Cities. February 2020; 1(1): 011006. https://doi.org/10.1115/1.4045704

Moglen G. E., McCuen R. H., & **Moglen R. L.** (2018). Consequences of Changes to the NRCS Rainfall-Runoff Relations on Hydrologic Design. Journal of Hydrologic Engineering, 23(8), 04018032. https://doi.org/10.1061/(ASCE)HE.1943-5584.0001681

Moglen R. L., Chanpiwat P., Gabriel S. A., Blohm A. (2020). A Dynamic Programming Approach to Optimal Residential Demand Response Scheduling in Real-Time. (in review)