RENÉ ANDRÉS GARCÍA FRANCESCHINI

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Cambridge, MA 02139

EDUCATION

Massachusetts Institute of Technology   *Expected June 2019*

Bachelor of Science in Civil and Environmental Engineering   Overall GPA: 4.8/5.0

Minor in Statistics and Data Science

Concentration in Public Policy

RELEVANT COURSEWORK

Civil and Environmental Engineering

Project Evaluation and Management; Principles of Energy and Water Sustainability; Transportation Systems Modelling; Introduction to Network Models; Introduction to Civil and Environmental Engineering Design.

Statistics and Data Science

Statistics, Computation and Applications; Econometric Data Science; Introduction to Machine Learning; Optimization Methods in Business Analytics; Multivariate Data Analysis.

Public Policy

US Social Policy; Making Public Policy; Principles of Microeconomics; Latin America: Revolution, Dictatorship, and Democracy, 1850 to Present.

RESEARCH EXPERIENCE

Solstice   May 2018 - Present

Data Analyst Fellow   *Cambridge, MA*

· Produced full experimental protocol that a team of more than twenty would follow for the successful implementation of EnergyScore, a new credit qualification metric. This included risk management and mitigation, data acquisition via online platform, subject recruitment, data analysis and project closure.

· Represented Solstice at the Rocky Mountain Institute's e-Lab Forge Conference, a gathering of multiple experts in the renewable energy world with the purpose of accelerating the design of innovative projects that connect low-income communities and households to clean energy benefits.

· Served as the main point of contact for various external stakeholders, including data scientists from Stanford, MIT and non-profits such as DataKind.

· Successfully secured IRB approval for pilot study through MIT's Committee on Use of Humans as Experimental Subjects.

Resilient Infrastructure Networks Lab   August 2017 - May 2018

SuperUROP Undergradutate Research and Innovation Scholar   *Cambridge, MA*

· Posed a new version of the Team Orienteering Problem, where a group of agents are sent to recover bounties from nodes in a map where the full connectivity of the network is not known a priori.

· Designed algorithms that combined previous GRASP algorithms with Gaussian process regression to create a routing policy that would reduce the computational time of the algorithm and increase the number of sUASs that make it back to base.

· Presented the results at the 2018 EECScon undergraduate research conference and was featured on the SuperUROP website through a short video detailing this work.

Malanotte Research Group, Consorzio di Venezia Nuova
Undergraduate Researcher

May 2017 - August 2017

Venice, Italy

· Performed statistical analyses on almost 50 years of sea level data of the Adriatic Sea to determine the usage of the new MOSE sea gate system as a way to prevent flooding in the historic city of Venice
· Projected sea level rise in the Adriatic Sea going into 2100 to predict how the gate system would have to operate in accordance to financial, mechanical and environmental considerations.
· Presented the results of the research to experts at the *Consorzio di Venezia Nuova*, to fellow students at the end of the summer session and to MIT faculty and staff in September 2017.

Senseable City Lab
Undergraduate Researcher

August 2016 - May 2017

Cambridge, MA

· Implemented algorithms that would determine the best placement of robots to gather the most amount of information on underground sewage drug presence.
· Collaborated on the physical design of the robot by choosing the best sensors for the demanding environment of a sewage manhole, based on technical, financial and environmental concerns.
· Wrote multiple libraries that automatically calibrated all sensors, logged data and gave further instructions to the robot based on sensor data.

LEADERSHIP EXPERIENCE

Class Awareness, Support and Equality (CASE)
President

August 2016 - Present

Cambridge, MA

· Published one of the largest studies of socioeconomic struggles faced by MIT students in a report to all MIT dorms and living groups and to the MIT Administration. The results prompted Administration to create a working group (the ARM Coalition) specifically devoted to these issues.
· Created a crowdsourced guide for living at MIT under a budget called *thrifty*. The guide has been viewed by hundreds of MIT students and has had dozens of independent contributors.
· Built a program from the ground up that would facilitate housing for low-income students' families during Commencement by matching them with willing hosts. More than forty students have participated in the program.
· Led workshops on socioeconomic class disparities on and off campus, including a workshop on MIT's prestigious Multicultural Conference and at Class Actions' First-Generation College Student Summit, which was featured on the Boston Globe.

Gordon Engineering Leadership Program
GEL Year 2 Student

September 2017 - Present

Cambridge, MA

· Participated in a highly selective and immersive leadership development program for engineering undergraduates mentored by specialized MIT educational staff.
· Served as a member of the Assessment Team, providing feedback on effective assessment techniques to eight other peers in the GEL Year 2 cohort.
· Organized a completely student-led educational lab for the GEL Year 1 cohort, including activity dynamics, learning objectives and the leadership capabilities to be practiced.

Theta Deuteron of Theta Delta Chi
House Manager, Recruitment Chair

August 2014 - August 2018

Cambridge, MA

- As Recruitment Chair, led "Rush", a week at the beginning of the academic year where all fraternities host their recruitment events. Leveraged a budget of around $22,000 which was used for various outside events, materials, food, etc.
- As House Manager, planned and executed "Work Week", a week of extensive renovations to the house. Leveraged a budget of $4,000 and a team of around twenty brothers. Renovations included repurposing the house formal room, repurposing the pool room, painting most of the rooms in the first floor and basement, etc.

TEACHING EXPERIENCE

Minority Introduction to Engineering and Science (MITES) May - July, 2015 and 2016
Teaching Assistant *Cambridge, MA*

- Served as Teaching Assistant for Physics I (2015) and Calculus I (2016) for a class of roughly thirty high-achieving rising seniors.
- Led a smaller eight student cluster as a Residential Counselor and facilitated numerous professional, academic and recreational activities.

Colegio Ponceño January 2016 - May 2016
Computer Science Teacher *Ponce, PR*

- Built a computer science curriculum for a class of twenty five students in a school that had never implemented any sort of coding into their classes.
- Coached a competitive mathematics team by teaching drills that were not part of the school curriculum. This team placed fourth out of sixteen schools from across the island.
- Advised rising seniors on the college application and admissions process.

ACHIEVEMENTS

MLK Jr. Leadership Award (2019)

Priscilla King Gray Public Service Fellowship (2018)

Featured on the front page of the MIT website (2018)

Audience Choice Award for Best Poster, EECScon (2018)

Bridge Builder Award, MIT Awards Convocation (2018)

Davis Projects for Peace Fellowship (2018)

Priscilla King Gray Explore Fellowship (2017)

SKILLS

Spoken and Written Languages Spanish, English
Computer Languages Python, MATLAB, Julia, Stata, R