Julian Florez

Contact Information

10374 Beach Crest Drive NE,
Bainbridge Island, WA, 98110 USA

email: jflorez@umich.edu
web: jflorez.github.io/personalWebsite
linkedIn: jflorez1

Research Interests

Sustainability (energy, mobility, built environment, industrial ecology). Data science, optimization. Industrial operations. Collective dynamics and complex systems.

Education

B.S.E Industrial Operations Engineering, University of Michigan 2019 - present

Minor: Complex Systems, GPA: 3.814

Emphasis in sustainability and energy

Professional Experience

Researcher, *University of Michigan Ann Arbor: Innovation for Impact, Climate Change* 2022

- Selected for the Center of Entrepreneurship's yearlong 2022 Climate Change course, I will gain formal training on CCUS technologies and the financial landscape while conducting research with an emerging startup to incorporate geothermal technologies into their industrial optimization decision model.

Research Intern, *Boundless Impact Research & Analytics* Fall 2021

- Researched emerging sustainable technologies across diverse industries to write and present professional annual industry financial briefs to a hub of impact leaders at a sustainability-oriented and life cycle assessment investment firm.

Undergraduate Complexity Researcher, *Santa Fe Institute* Summer 2021

- Selected to be in the Undergraduate Complexity Research Program (formerly REU). Collaborated with faculty and PhD members on a self-created research project utilizing Tableau and R on *The Dynamics of Company Waste with Analysis on Environmental Impact Scaling*.

Lab Researcher II, ASSET Lab, *University of Michigan Ann Arbor* 2021

- Researched, designed, and developed a multi-objective optimization model in Python incorporating workforce analysis analyzing the retirement of coal plants in the United States. Project was handed off to two graduate students and received funding from the Idaho National Laboratory for further development.

Staff Writer, *Michigan Journal of International Affairs* 2021

- Staff writer in the Europe region covering technical sustainability topics with a geopolitical perspective. Recent pieces include analysis of the world's first energy island in Denmark and the development of hydrogen in Europe.

Lab Researcher I, ASSET Lab, *University of Michigan Ann Arbor* 2019-2021

- Conducted research on renewable energy capacity values in a *National Assessment of Wind and Solar Resources*. Created a realistic Python power system model, collaborated across technical disciplines, and synthesized results into a peer reviewed research paper.

Software Intern, *Microsoft* Summer 2019

- Served alongside software engineers, attorneys, and product managers to identify product data blind spots in the Microsoft Office division and create and deploy a widely adopted (200k+ downloads) open-source user-friendly telemetry package.

Publications & Reports

2021

Bromley-Dulfano, I., **Florez, J**., & Craig, M. T. (2021). Reliability benefits of wide-area renewable energy planning across the Western United States. *Renewable Energy*, *179*, 1487-1499.

Florez, J. (Winter 2021) Shifting Winds of Power. *Michigan Journal of International Affairs*.

Research Presentations

2021

Florez, J. The Dynamics of Company Waste with Analysis on Environmental Impact Scaling *Santa Institute REU Research Talk*. Santa Fe, NM

Bromley-Dulfano, I. **Florez, J.**, & Craig, M. T. Reliability benefits of wide-area renewable energy planning across the Western United States. *International Symposium on Sustainable Systems and Technology*. Portland, OR

Bromley-Dulfano, I. **Florez, J.**, & Craig, M. T. Reliability benefits of wide-area renewable energy planning across the Western United States. *Michigan University-wide Sustainability and Environment Conference*. Ann Arbor, MI

Bromley-Dulfano, I. **Florez, J.**, & Craig, M. T. Reliability benefits of wide-area renewable energy planning across the Western United States. *University of Michigan Engineering Research Symposium*. Ann Arbor, MI

Bromley-Dulfano, I. **Florez, J.**, & Craig, M. T. Reliability benefits of wide-area renewable energy planning across the Western United States. *University Research Opportunity Program Summer Symposium*. Ann Arbor, MI

Honors & Achievements

Innovation for Impact: 2022 Climate Change Cohort member	2022
Emerging Leader Verge 21, GreenBiz	2021
University Research Blue Ribbon Award, University of Michigan	2021
Boeing Industry Merit Scholarship	2020-2021
Alumni Merit Scholarship	2019-present
Dean's List, University of Michigan	2019-present
Office Add-ins Telemetry package, Microsoft	2019

Languages & Skills

Software Development and Data Analysis:

- C++, Python, Java, R, Tableau, Typescript

Languages:

- English: Native
- Spanish: Basic
- German: Beginner