Julian do Nascimento Ricardo

Data Scientist

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Data scientist, consultant, and educator with 8 years of expertise in developing analytical tools, training professionals in data analysis, and reproducibly transforming complex datasets into policy recommendations for non-technical audiences. I build resilient analytical pipelines in multiple languages (Python, R, SQL) with a breadth of methods for data collection (surveys, webscrapers, API, energy audits, GenAI). analysis (linear regression, random forest, XGBoost), and visualization (ggplot, seaborn, Javascript). Author of five peer-reviewed research studies and multiple R packages.

Experience

Climate Finance Solutions — **Oct 2024 - Present**
Database Specialist — Brooklyn, NY
https://climatefinancesolutions.com

- Lead development of a modern application (React/Typescript/Tailwind) to deliver clients an intuitive interface to manage and make strategic decisions based on their relevant funding ecosystem
- Build software on accessible, responsive design principles, integrating features like real-time filtering, authentication, and data visualization with shadcn
- Develop and improve a distributed web scraping system, using async patterns, fault-tolerant data collection, and RAG to reliably mine structured data on climate funding opportunities in the US and globally
- Plan, execute, and lead quality control of hundreds of database migrations
- Build pipelines using R, Python, and Airtable to reduce manual entry and improve quality of client-facing data

NMR Group Inc. — **Jun 2017 - Aug 2024**
Senior Data Scientist / Engineering Analyst / Research Associate — Brooklyn, NY
https://nmrgroupinc.com

- Led two impact evaluations of residential energy efficiency programs for the Independent Electricity System Operator of Ontario, including project management, analyst supervision, and client presentations
- Developed robust forecast model of energy savings due to commercial building code adoption for Western US utility client, synthesizing 3rd-party data and creating reproducible pipelines using R and Python
- Modeled energy savings from chiller and combined heat and power (CHP) plants using linear regressions to verify accuracy of professional engineers' algorithms
- Ran parametrized simulation of residential building energy models to estimate capital and ownership costs of different homes to various market actors
- Four 4 years, led knowledge sharing / ideas team, R package development and training of 8 new analyst hires
- Designed samples, performed tests of statistical significance, and led code review to support multiple process and impact evaluations simultaneously
- Quantified and created interactive visualizations of energy savings potential based on updates to Northwestern US states' commercial building codes

Exam Schools Partnership Initiative — **Oct 2016 - Jun 2018**
English Language Arts & Math Instructor — New York, NY
https://www.espi.nyc/

- Teaching critical reading, math, writing, and test prep strategies for NYC high school entrance exams
- Providing academic and cultural resources to students from low-income, racially isolated NYC schools
- Assessing students on their engagement with material, test results, and class participation

BlocPower — **Jun 2016 - Aug 2016**
Clean Projects Engineering Intern — New York, NY
https://blocpower.org

- Developing tools in Python for statistical analysis of energy, emissions, water, and air quality data
- Compiling project reports with HVAC and renewable energy equipment specifications
- Designing building envelope, lighting, HVAC, on-site generation, and building management systems
- Performing energy audits of residential and commercial buildings for energy efficiency retrofits
- Simulating and benchmarking building energy usage with software, EnergyPlus and Openstudio

Education

Columbia University — **2015-2017**
Environmental Engineering — MS

Amherst College — **2011-2015**
Physics & Spanish — BA

Graduated Cum laude with Distinction

Publications

The Rent is Too D* High! Cost-Effective Ways to Reduce Upfront and Long-term Costs for Residential New Construction and Simplify Participation** — **Aug 2024**
ACEEE Summer Study on Energy Efficiency in Buildings

Hard Times for an Honest Logger? Optimizing a Small Business Direct Install Logger Study in an M&V 2.0 Landscape — **Aug 2019**
IEPEC

Into the Great Wide Open: A Comp arison of M&V 2.0 and Tradition al Evaluation Methods for a Small Business Direct Install Program — **Aug 2018**
ACEEE Summer Study on Energy Efficiency in Buildings

Time to Move On: An Examination of Metering Periods for Small Business Direct Install Participants — **Aug 2018**
ACEEE Summer Study on Energy Efficiency in Buildings

A framework for comparing the economic performance and associated emissions of grid-connected battery storage systems in existing building stock: a NYISO case study — **Jun 2017**
IEEE Photovoltaic Specialists Conference

Languages

Portuguese
Fluent

Spanish
Professional