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LinkedIn | GitHub | Portfolio

# Daniel Ryan Furman

A challenge-driven learner passionate about data science, software, and computer vision. "More data beats better models, better data beats more data, and eighty percent of the outcomes result from twenty percent of the inputs."

## EDUCATION

**University of California, Berkeley** — Berkeley, CA
*Master of Information Management and Systems* — Expected May 2023

**University of Pennsylvania** — Philadelphia, PA
*Bachelor of Arts in Environmental Science and Mathematics* — May 2020
Cumulative GPA: 3.79 / 4.00 (Magna Cum Laude)

- Honors: Rose Undergraduate Research Award ('20); NSF Award #1757952 ('19); CURF Research Grants ('18)
- Relevant Coursework: Numerical Mathematics, Computational Linear Algebra, Machine Learning, Data Analytics, Data Mining for Big Data, Modeling Geographic Space, Biostatistics, Game Theory, Calculus I – III

## PROJECT & RESEARCH EXPERIENCE

**NSF Data Science Fellow** | Harvey Mudd College | *Claremont, CA* | Code — May 2019 – Jan 2021

- Pioneered the application of geospatial machine learning frameworks for species conservation in the SW United States. Built highly predictive species distribution models (neural networks, BRTs, soft voters) through the design of Python and R programs for ensembled modeling, random sampling, and geo-statistics.

**Geophysics Researcher** | Penn Ice Physics Lab | *Philadelphia, PA* | Code — Sep 2017 – May 2020

- Spearheaded a three-year project with the experimental geophysics group, focusing on problems in the near-surface of ice sheets. Led experiments probing for microstructure sensitive flow in ice compaction. Developed and analyzed constitutive rheological models from our lab results for applications to natural settings.

**Data Science Consultant** | Official World Golf Rankings | *Remote* — Mar – May 2019

- Investigated the fairness of OGWR's ranking system over a two-month contracted project. Built unsupervised learning visualizations digging into tour-based biases and corrected extensive errors in the company's databases.

**Statistics Researcher** | James Cook University | *Townsville, Australia* — Aug – Dec 2018

- Assessed seasonal forces on bird assemblage abundance and species richness across the AWTs with random forests built from geospatially and temporally filtered data, mined decades-worth of ecological surveys.

**Feasibility Strategy Intern** | Wildlife Works | *San Francisco, CA & Indonesia* — May – August 2017

- Conducted a feasibility report profiling a REDD+ carbon-credit investment in East Kalimantan, Indonesia, finding large gaps in the proposals socio-economic impacts and management of the neighboring communities.

## SKILLS & PUBLICATIONS

**Overview:** Creative hypothesis designer, effective team leader and collaborator, detail-oriented problem solver
**Programming:** Python (numpy, matplotlib, scipy, scikit-learn, pytorch, pandas), R, C++, MATLAB, Shell
**Conference Proceedings:** (1) DR Furman, SK Halvorsen, and SC Adolph: *Society for Integrative and Comparative Biology Meeting* (SICB), Jan 3, 2021. (2) DR Furman and SK Halvorsen: *SCCUR Meeting*, Nov 23, 2019.

## VOLUNTEERING & INTERESTS

- Teaching Volunteer with Philadelphia Water and the Cook-Wissahickon School ('16-17, 3 hours per week)
- Volunteer with Star Paws Rescue ('13-16, 4 hours bi-weekly) and Marine Mammal Center ('16, 5K run)
- UPenn environmental community, e.g., Penn Sustainability Review: "The Indirect Hand of Man" ('17)
- UPenn Sigma Alpha Mu (two-time brotherhood chair, '17-18 and '19-20)
- UPenn D1 Varsity Golf Team ('16-17), Captain at the Harvard Westlake School Golf Team ('15-16)
- Certified PADI Rescue Scuba Diver with AQF CPR, First Aid, and $O_2$ training ('19)
- Reads: Everybody Lies, Universal: A Guide to the Cosmos, Sapiens, Seven Brief Lessons on Physics
- Hobbies: surfing, playing guitar, rock climbing, backpacking, and OSS development (see my PyPi)