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Daniel Ryan Furman

A lifelong learner passionate about data science. "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 Pennsylvania May 2020
Bachelor of Arts; Magna Cum Laude *Philadelphia, PA*
Major: Earth Science with Distinction | Minor*:* Mathematics
Cumulative GPA: 3.79 / 4.00 | Cumulative Major & Minor GPA: 3.82 / 4.00
Awards: Rose Undergraduate Research Award (Penn, '20); NSF Award #1757952 (HMC REU '19); CURF Sustainability Action Grant (Penn, '18); EES Hayden Scholars Grant (Penn, '18); SICB ('21) and SCCUR ('19)
Relevant Coursework: Numerical Mathematics, Computational Linear Algebra, Machine Learning, Data Analytics, Data Mining for Big Data, Modeling Geographic Space, Biostatistics, Mathematical Game Theory, Calculus I – III
Semester Abroad: James Cook University, Queensland, AUS (with statistics research under Prof. Stephen Williams)

PROFESSIONAL EXPERIENCE

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

- Pioneers geo-spatial machine learning frameworks with climatological and ecological information, which informs effective desert biodiversity conservation in southwestern United States.

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

- Led original geophysics experimentation probing large-scale cryosphere processes, discovered novel near-surface physics for ice sheet flow as explored in my award-winning senior thesis.

Data Science Consultant | Official World Golf Rankings (OGWR) Mar – May 2019

- Directed analytics investigating the ranking system's fairness, discovered bias towards American-based tours with categorical PCA biplots after correcting extensive errors in the OGWR's aged databases.

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

- Spearheaded field research exploring a REDD+ conservation project, finding inadequacies in the carbon-credit investment's impact in under-served communities across East Kalimantan (PSR blog write-up).

SKILLS & PUBLICATIONS

Overview: Creative hypothesis designer, team leader and collaborator, detail-oriented and challenge-driven thinker
Programming: Python (ML, recursion, object-orientation, functional, Bayesian Stats, regularization/normalization), R (geo-statistics, statistical modeling), C++ (objects and data structures in AWS), MATLAB, GIS, Zsh/Shell
Python Libs: e.g., NumPy, matplotlib, SciPy, SymPy, Scikit-Learn, PyCaret, PyTorch, pandas, rasterio, geopandas
Conference Publications: (1) DR Furman et al., *Society for Integrative and Comparative Biology Meeting*, Jan. 3, 2021. (2) DR Furman and SK Halvorsen, *SCCUR Meeting*, Nov. 23, 2019.

INTERESTS & VOLUNTEERING

- Hobbies include surfing, playing music (guitar, bass, keys), rock climbing, reading, and being outdoors.
- 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)