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Daniel Ryan Furman

A challenge-driven scientific researcher and data scientist interested in energy systems and green technology

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: Penn Rose Undergraduate Research Award (‘20); NSF Data Science Award #1757952 (‘19); SICB Poster (‘21); SCCUR Presenter (‘19); Penn CURF Sustainability Grant (‘18); Penn EES Hayden Scholars Grant (‘18)
Coursework: Numerical Mathematics, Computational Linear Algebra, Machine Learning, Data Analysis in Earth Science, Statistical Data Mining for Big Data, Modeling Geographic Space, Statistics for Biologists, Calculus I – III
Semester Abroad: James Cook University, Queensland, Australia (with research in AWT ecological modeling)

PROFESSIONAL EXPERIENCE

Data Science Researcher | Harvey Mudd (NSF #1757952) | *Claremont, CA* | Code May 2019 – present
- Pioneers geo-spatial machine learning frameworks with climatological and ecological data, which informs effective conservation in the southwestern United States deserts (Firefox link: SICB ‘21)

Geophysics Researcher | Penn Ice Physics Lab (CURF grants) | *Philadelphia, PA* | Code Sep 2017 – May 2020
- Led original geophysics experimentation probing large-scale cryosphere processes, published newly discovered ice densification physics in my award-winning senior thesis (CURF grant write-up)

Data Science Consultant | Official World Golf Rankings | *Completed Remotely* Mar – May 2019
- Discovered bias towards American tours with categorical PCA biplots, also corrected extensive data errors

Strategy Intern | Wildlife Works | *San Francisco, CA & Indonesia* May – August 2017
- Spearheaded field and interview research investigation into a REDD+ carbon-credit project, finding inadequacies in its potential socio-economic impact for local communities (PSR blog write-up)

SKILLS & PUBLICATIONS

Overview: Creative hypothesis designer, team leader and collaborator, detail-oriented thinker, adaptable, tenacious

Programming Languages: Python (modeling, recursion, object-orientation), R (modeling and statistics), C++ (object-orientation and data structures), MATLAB (numerical math), OCaml (value-orientation), Zsh (terminal)

Python Libraries: pyimpute (contributor), pandas, numpy, matplotlib, seaborn, scipy, sympy, scikit-learn, pycaret, apache-spark, tensorflow, keras, catboost, lightgbm, cloudpickle, eli5, mlflow, rasterio, geopandas, glob, flake8

Publications: DR Furman, SK Halvorsen, and SC Adolph. Assessing Climate Change Impacts … with Ensemble Species Distribution Models. *Society for Integrative and Comparative Biology*, 1/3/2021 (Firefox link: SICB ‘21)

INTERESTS & VOLUNTEERING

- Hobbies include surfing, playing music (guitar, bass, keys), rock climbing, reading, and being outdoors
- Watershed science TA with Philadelphia Water and Cook-Wissahickon School (‘16-17, 3 hours per week)
- Article published in Penn Sustainability Review (PSR), “The Indirect Hand of Man” (‘17)
- Volunteer with Star Paws Rescue (‘13-16, 4 hours bi-weekly) and Marine Mammal Center (‘16, 5K run)
- Sigma Alpha Mu (two-time brotherhood chair, ‘17-18 and ‘19-20)
- Member of UPenn Varsity (D1) Golf Team (‘16-17)
- Certified PADI Rescue Scuba Diver with AQF CPR, First Aid, and O_2 training (‘19)