Daniel Ryan Furman

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Portfolio • LinkedIn • Google Scholar • GitHub

EDUCATION

University of California, Berkeley, School of Information – Berkeley, CA **Anticipated May 2023**
Master of Information Management and Systems
Specialization: Applied Data Science & Machine Learning | Graduate Certificate in Applied Data Science
Teaching: Lead TA for "Descriptive & Predictive Data Mining", Berkeley Haas School of Business (Fall 2021) [Syllabus]

University of Pennsylvania, College of Arts and Sciences – Philadelphia, PA **Graduated May 2020**
Bachelor of Arts with Distinction in Earth Science
Minor: Mathematics • **Cumulative GPA:** 3.79/4.0
Honors: Rose Senior Research Award [Paper], NSF Award #1757952 [Poster], CURF Climate Action Grant [Write-Up]
Activities: NCAA D1 Golf Team • Experimental Geophysics Lab

Harvard-Westlake School – Los Angeles, CA **Graduated June 2016**
Cumulative GPA: 4.2/4.0 (Weighted) • **ACT:** 34 (Composite Score) • **Activities:** Varsity Golf Team Co-Captain

EXPERIENCE

ML Engineering Intern, Comon Solutions – Mountain View, CA **November 2021 - Present**
- Developed automated image processing & CV modeling pipelines in Python via GCP & Colab, refining software products integrated within ArcGIS that inform effective resource strategy for land managers (~100+ GB files). [Link]

Data Science Consultant, Contract & Freelance **March 2019 - Present**
- Strategized recommendations with **De Castro, West Inc.** for a real estate client restructuring 11 unevenly shared assets into 3 majority ownerships, building a search algorithm that minimized value & debt stake change between partners. Identified an optimal state with under a 2% change against ~$159mm in total assets. [Blog]
- Extracted insights for **Official World Golf Rankings Ltd.** from two decades of data (16 feats., 3400 tournaments, 21 tours), developing PCA biplots & refining written project deliverables. These insights convinced OWGR stake-holders to ship updates to the ranking system in Q3 '22 to more accurately capture relative athletic performance.

Data Science Researcher, Harvey Mudd College – Claremont, CA **May - August 2019**
- Won an NSF grant to conduct research in mathematical biology, constructing GIFs of species range shifts from ML classifiers trained with bioclimate features & species presence/absence labels (19 feats., ~7k obs.). [DataViz]
- Built a Python class with CatBoost geo-classification fit via an experimental design with multi-seed/multi-sample frameworks & block cross-validation (AUCs>0.95, domain SOA). Wrote R functions for data ETL & model selection.

PROJECTS

Multi-Platform Mixing for Social Media NLP – Python (NLTK, SpaCy, HuggingFace). [NAACL22, In Review]
- Developed a data-centric domain adoption method that improves the portability of social media NLP models by mixing multiple platforms at training (Instagram & Twitter), which boosted test-set accuracy by ~50% for celebrity gender profiling on Facebook posts (mimicking domain shift). Scraped a total of ~40k public, verified posts.
- A highly scientific, visual exploration of celebrity Tweets and Instagram captions (Rshiny). [DataViz]
- Stack: GCP Language AutoML, BERT-Base, SVMs (tf-idf), Neptune.ai logging, Git for data storage & versioning.

SurfCrowds.ai – Python (NumPy, Pandas, Scikit-learn), AWS (Lambda, S3), Dash, Heroku. [Web-App]
- Built a crowd size predictor for surfers at First Point in Malibu, CA with Random Forest & Gradient Boosting ensemble regressors deployed as a serverless AWS Lambda function. Embedded models within a Dash web-application that enables my hometown surf community to explore new types of informative AI forecasts.

Kaggle BirdCLEF21 Competition – Python (PyTorch, TensorFlow, Keras), Neptune.ai. [Blog]
- Won solo bronze out of 816 teams for Sound Event Detection with multi-label, split-attention RNNs & CatBoost metadata classifiers blends (397 classes, ~63k obs.), overcoming a large train/test shift & weak labeling (F1=0.61).