ALEXANDER DASILVA

Quantitative scientist with 5+ years of experience teaching and utilizing statistical methods for inference, prediction, and classification applied to people-centric data. I excel working in teams to create and disseminate innovative data-driven solutions.

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EDUCATION

Dartmouth College
PhD Student; Psychological & Brain Sciences | expected: 2021

Iowa State University
BS Honors Psychology; Minor Statistics | 2014

TECHNICAL SKILLS

Programming:
- R (fluent)
- Python, SQL, Bash, Git (some experience)

Regression and Classification:
- LM/GLM
- Regularization (ridge/lasso/SCAD)
- Mixed effect models
- Boosting (xgboost)

Data Reduction and Visualization:
- PCA, MDS, Factor analysis
- ggplot2
- R Shiny

Reproducible Computing:
- rmarkdown, knitr, JuptyerLab

SOFT SKILLS

- Team focused
- Technical communication and writing
- Public speaking
- Problem solving
- Detail-oriented
- Adaptable
- Quick learner

ACTIVITIES

- Towards Data Science contributing writer https://medium.com/@awdasilva21
- BIAS (Building Inclusivity for the Advancement of Science) Member
- Dartmouth Graduate Consulting Club member

EXPERIENCE

PhD Student, Dartmouth College (Sept '15 – Current)

Mobile Sensing and Personality
- Collaborated with computer scientists and clinicians in one of the first ever projects linking brain imaging data to passive mobile sensing data
- Cleaned and munged large passive sensing data that were sampled every 10 minutes from ~ 300 students over a 3-year period
- Utilized methods and procedures such as A/B testing, linear/logistic regression, growth models, mixed and vector autoregressive models, and feature selection (lasso/SCAD) to relate sensing features to personality measures
- Validated methods, via simulations, for handling complex missing longitudinal data
- Published 3 papers (with 5 more in review/ in prep) in leading health informatics and computer science journals that contributed to securing a multi-year $3,000,000 grant

Health Informatics
- Worked among a small team of researchers to assess content in the online reviews of medical professionals
- Scraped, cleaned, and processed 2,000,000 web ratings and reviews of medical doctors
- Housed reviews and demographic data in a relational database using SQLite
- Applied LDA to uncover thematic patterns in the reviews and built boosted models to predict quality ratings and gender from topic weights
- Discovered novel evidence for a gendered competency bias in the reviews of physicians; findings to be presented at a leading human behavior conference

ADVISING

Consulting (Aug '18 – Current)
- Served as statistical consultant at the Dartmouth Institute for Writing and Rhetoric
- Advised and instructed literature and writing faculty on statistical methods for grant funded research projects

Teaching (Sept '16 – June '18)
- Headed hands-on lab sessions for courses in statistics, brain imaging, and experimental design with class sizes ranging from 10-50 students
- Distilled topics such data cleaning and analysis and survey/experiment design to students
- Rated overwhelmingly as a clear and effective lecturer (average rating = 4.7/5) when teaching a unit on regression by a class of 30 students

AWARDS

Present | NIH/NIDA T32 Predoctoral Fellow

2019 | Finalist - Dartmouth Hackathon Advanced Division; created a recommender system for local restaurant dishes (https://tastespace.shinyapps.io/tastespace/)

2019 | 1st - Thayer Consulting Case Competition sponsored by McKinsey & Google

2017 | Society for Social and Affective Neuroscience poster award

2010 - 2014 | George Washington Carver Scholar