Ian James Douglas

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LinkedIn | Website | Github

SKILLS

Languages: python, R, Linux, Matlab, HTML, Javascript

Packages: pytorch, tensorflow, sklearn, open-cv, pandas, numpy, ggplot2, shiny, tidyverse

Statistical Analysis: Predictive Machine Learning (e.g., XGBoost, SVM, Random Forest, etc) Computer Vision, Dimension Reduction (PCA, Graph Analysis, t-SNE, etc), Clustering (KNN, MDS, etc), Decision-Trees, Regularization, Regression/ANOVA, Model Inspection / Feature Selection, Bootstrapping, Model Diagnostics, AB Testing, Data Visualization

Other: Communication, Model Insights, Translation, Presentation, Writing, Teaching, Leadership

RELEVANT EXPERIENCE & PROJECTS

PhD Researcher, *the University of Texas,* Austin, TX — Aug 2020 - Present

- Using authorized APIs I scraped posts from Reddit containing images that I used to build a model of user preferences, showing that common aesthetic principles guided the perception of images from different object/semantic categories GitHub
- Using network analysis, I mined surveys about behavioral and emotional responses to the COVID-19 pandemic to determine common patterns of experiences and participant clusters, culminating in a presentation of the findings at a relevant conference GitHub
- Using a pre-trained computer vision model to classify types of interactions between two social partners, I wrote scripts to generalize the analysis to disabled populations and to take into account visual attention, accepted for presentation at CogSci 2022 GitHub
- I wrote proprietary scripts to preprocess high-density data sets of 4D brain image time-series containing neural activity (at voxel resolution) across time. I used Linux and open-source file and image processing tools, and conducted image transformation, dimension reduction, regression analysis to model voxel activity, and artifact removal

Data Analyst, *Columbia University,* New York City, NY — Dec 2019 - Aug 2020

- Working in a neuroscience lab I built an interpretable machine learning classification pipeline to identify brain morphology associated with childhood trauma exposure, which led to new and undiscovered insights about brain morphology and development GitHub
- Working in a neuroscience lab I programmed an analysis pipeline to automate machine learning predictive model comparison and feature selection, resulting in peer-reviewed publication reporting the relation between gastrointestinal symptoms and anxiety Paper

EDUCATION

PhD, Psychology Research, The University of Texas, *Austin, TX* — Aug 2020 - Present

- *Courses*: Text & Social Media Mining/Analysis, Machine Learning, Advanced Statistics

M.S., Applied Statistics, Columbia University*, New York City, NY* — 2020

- *Courses*: Machine Learning Methods, Data Mining, Computational Statistics, Multivariate Statistics, Regression/ANOVA, Hypothesis Testing, Probability Theory & Statistics

B.S., Psychology, Trinity College*, Hartford, CT* — 2015

- *Courses*: Research Design & Analysis, Psychological Assessment, Cognitive/Social Neuroscience, Social Psychology

EMPLOYMENT

Graduate Research/Teaching Assistant, *The Univ. of Texas*, *Austin*, TX — Aug 2020 - Present

Data Analyst, *Columbia University*, *New York City*, NY — Jan 2019 - Aug 2020

Clinical Research Site Manager, *Vanguard Research Group*, *Glen Oaks*, NY — Aug 2016 - Aug 2018

Research Coordinator, *Vanguard Research Group*, *Glen Oaks*, NY — Aug 2015 - Aug 2016