

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/Network Analysis, Cluster Analysis, Factor Analysis, Multidimensional Scaling, t-SNE), Stacking Models, Decision-Trees, Regularization, Regression/ANOVA, Model Inspection / Feature Selection, Monte-carlo, Optimization, Diagnostics, Hypothesis Testing, Data Visualization

Other: Communication/translation, presentation, writing, teaching/leadership, public speaking

RELEVANT EXPERIENCE

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

- Using pytorch computer vision models, I built a neural network to detect when social interactants were jointly engaged in the same task based on visual cues captured through head-mounted video cameras. [Link](#)
- Using network analysis, I mined surveys about behavioral and emotional responses to the pandemic to determine common patterns of participants and experiences, presented the findings at a relevant conference (Flux, 2021). [Link](#)

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

- Working in an academic neuroscience lab I built an analysis pipeline using machine learning predictive models to classify which participants had a history of early life adversity from images of brain scans. [Link](#)
- I developed code to extract meaningful explanatory features from models to inform future research questions. [Link](#)

Research Assistant, *Columbia University*, New York City Jan 2019 - Dec 2019

- Working in an academic neuroscience lab I wrote code for an analysis pipeline using machine learning models to predict anxiety from gastrointestinal symptoms, including feature selection and hypothesis testing to identify the best model. [Link](#)

RELEVANT COURSEWORK and PROJECTS

M.S., Applied Statistics, *Columbia University*

- Machine Learning (K-means, PCA, CNN, Keras, TensorFlow, Random Forest, XGBoost, matplotlib, Support Vector Machines, python programming)
- Data Mining (Visualization, ggplot2, Predictive Modeling, R programming)
- Computational Statistics (Bootstrapping, Permutation Tests, Cross-Validation, Regularized Regression, Generalized Additive Models)
- Multivariate Statistics (PCA, Multidimensional Scaling, Partial Least Squares, CCA)
- Statistics (Regression, ANOVA, Hypothesis Testing, Model Comparison, Diagnostics)

EDUCATION

the University of Texas, Austin, TX
Columbia University, New York, NY

PhD Candidate, Psychology Research, 2020 - Present
MS, Applied Statistics, 2019