John Brandt

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EDUCATION

Yale University   **May 2019**
Master of Environmental Management   New Haven, CT
• Relevant coursework: Advanced Natural Language Processing, Data Mining and Machine Learning, Geospatial Software Design

Vassar College   **May 2016**
Bachelor of Arts in Biology, 3.62 GPA   Poughkeepsie, NY

PROFESSIONAL EXPERIENCE

Data Science Consultant   **Aug 2018—Present**
Data Science Intern   **May—Aug 2018**
World Resources Institute   Washington D.C.
• Design and implement deep learning algorithms in natural language processing and computer vision to monitor shifts in policy prioritization, land use change, and societal barriers and incentives to forest restoration in 26 African countries
• Develop R package that identifies policy misalignment and summarizes and benchmarks policy agenda with neural embeddings
• Optimize targeted communication strategies by classifying demographics of 500,000 social media profiles with computer vision and identifying engagement strategies with deep learning and social network analysis
• Write grant proposals, develop institutional partnerships, and develop and administer workshops for machine learning initiatives

Research Assistant   **Sept 2017—Present**
Data Driven Yale   New Haven, CT
• Analyze unconventional data with text mining and machine learning to formulate innovative solutions to global environmental problems
• Discovered multibillion-dollar impact of air pollution by programming statistical models of 150 million credit card transactions in R
• Presented statistical research to the United Nations and received an award for leveraging big data to advance sustainable development
• Design and program an open source web portal with leaflet and d3 that leverages satellite data to model environmental and social equity
• Authored peer-reviewed publication analyzing private sector involvement in 190 national environmental policies with latent Dirichlet allocation, generalized linear models, and word embeddings in R and Python

GIS Analyst   **March 2016—Sept 2017**
Limnology Information   Hopewell Jct, NY
• Analyzed geospatial data in QGIS and GDAL to ensure regulatory compliance and identify strategies for sustainable land management
• Advised corporate and government clients on environmental policy agenda and sustainable land use by authoring green infrastructure development plans and long-term management plans for reservoirs and lakes

Sustainability Associate   **May 2016—May 2017**
Vassar College   Poughkeepsie, NY
• Led research team investigating ecosystem benefits of green infrastructure with time series and geospatial models of high frequency data
• Initiated a building energy efficiency project that saved $35,000 by utilizing sensor networks to optimize heating and cooling setpoints
• Automated data cleaning, warehousing, and visualization workflow of real-time data with R and Python to reduce analysis time by 65%

PROJECTS

Neural Text Classification
• Weakly supervised deep learning algorithm using character embeddings, self-attention, and recurrent neural networks in a multi-task training objective with extractive summarization to accurately identify and classify sentences on a Linux cluster with TensorFlow

Multismooth
• R package for spatial and temporal interpolation using multivariate kernel smoothing with automatic bandwidth selection, tidyverse integration, and automatic generation of animated and interactive maps

VOLUNTEER EXPERIENCE

Student Consultant   **Sept 2017—May 2018**
Sustainable CT   New Haven, CT
• Authored strategic plan for demonstrating impact to donors and stakeholders by researching and developing methodologies for data-driven metrics for hundreds of sustainability initiatives in energy efficiency, public transportation, and natural resources.

TECHNICAL COMPETENCIES

• Programming Languages: R, Python, JavaScript
• Data Visualization: ggplot2, Tableau, plotly, d3, leaflet
• Data Cleaning: tidyverse, dplyr, pandas
• Cloud Computing: AWS, Azure, Linux, Bash

• Versioning: Docker, GitHub
• Databases: SQL, MongoDB
• Machine Learning: TensorFlow, Keras, numpy
• GIS: ArcGIS, GRASS, QGIS, ArcPython, GDAL