Stephen Bailey

Data Scientist

DATA SCIENCE AND PROGRAMMING

AUG. 2013 – PRESENT

Vanderbilt Brain Institute
NIH Predoctoral Research Fellow

Pushed lab in novel direction through use of graph theory to model brain "connectome" throughout the lifespan. Research featured in talks at two major international conferences. 🌐

- Won a competitive NIH F31 research fellowship, placing in the 95th percentile. 🌐

- Leveraged high performance computing cluster to streamline analyses, reducing human wait time from >1 week to <1 hour.

- Upgraded lab imaging database of 13,000+ scans by directing its migration to web-based storage platform (XNAT).

- Utilized diverse analytical methods, including support vector machines, GLM, ICA/PCA, graph theory, and timeseries analysis, throughout projects.

- Authored 8 papers (3 first author) published in high-impact journals, including *PNAS* and the *Journal of Neuroscience.* 🌐

AUG. 2017 – DEC. 2017

Vanderbilt Center for Tech Transfer
Application Developer

Developed core application for patent-pending "text readability" algorithm in Python.

- Used *natural language processing* tools (Word2Vec, FreqDict, Stemmers) to analyze documents.

- Algorithm and database were wrapped into Django SaaS application, now live.

MAY 2017 – AUG. 2017

Metro Nashville Public Schools
Data Analyst

Built interactive reports on teacher vacancies that transformed communication between central office staff and 130+ school leaders. 🌐

- Honed communication skills with multiple audiences, including executive leadership.

- Created data dictionary for clarifying internal discussions about critical terms, such as "retention" and "termination".

✎ Overview

I am a rigorous scientist with expertise in image processing and statistics, looking to create value from messy data.

Expect me to: Take ownership. Drive towards results. Put team first. Always ask questions. Improve every day.

⚡ stkbailey.github.io

✉ stkbailey@gmail.com

☎ (615) 925-9322

EDUCATION

2013 – PRES.	**Neuroscience & Quantitative Methods** DOCTOR OF PHILOSOPHY *Vanderbilt University*
2007 – 2011	**Chemistry & Philosophy** BACHELOR OF SCIENCE BACHELOR OF ARTS *Samford University*

PROJECTS AND PRESENTATIONS

2018	**Biomedical Image Analysis** 🌐 DATACAMP.COM *Designed and taught introductory course on using Python (scipy, numpy, matplotlib) for image processing. To be released Aug. 2018.*
2018	**Deconvoluting Convolutions** 🌐 DATA SCIENCE MEETUP *Tutorial implementing deep convolutional networks for object detection.*
2018	**Kaggle Working Group** 🌐 MEETUP.COM *Organized "Data Nerds" group to work on Kaggle competitions. Top performance: 12th %ile on Data Science Bowl 2018, and a "most impactful kernel" award (19k views).*
2017	**Principles of Network Analysis** 🌐 PYNASH & PYTENNESSEE *Tutorial applying graph analysis to scraped data from Meetup.com.*

SOFTWARE EXPERTISE

ADVANCED	Python (esp. matplotlib, scikit-image, scikit-learn, keras), Power BI, Linux, Matlab, SLURM
PROFICIENT	Tensorflow, SQL, Docker, R