

Stephen Kent BAILEY

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Rigorous scientist with expertise in image processing, data visualization, and statistics. Looking to create value from big, messy data. Expect to: Take ownership. Drive towards results. Put team first. Always ask questions. Improve every day.

EDUCATION

- EXP. 2018 PH.D. in COGNITIVE NEUROSCIENCE, **Vanderbilt University**
Dissertation: *"The brain network architecture of reading."*
- MAY 2011 B.S. and B.A., **Samford University**
Majors: Philosophy and Chemistry | *summa cum laude*

WORK EXPERIENCE

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|------------------------|---|
| Current
AUG. 2013 | NIH Predoctoral Fellow at VANDERBILT UNIVERSITY
<i>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.</i> 🌐 <ul style="list-style-type: none">• Won a competitive NIH F31 research fellowship (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).• Analyzed data with a variety of techniques, including support vector machines, GLM, ICA/PCA, graph theory, and timeseries analysis.• Authored 8 papers (3 first author) published in high-impact journals, including <i>PNAS</i> and the <i>Journal of Neuroscience</i>. 🌐 |
| JAN. 2018
JUNE 2017 | App Developer at VANDERBILT CENTER FOR TECH TRANSFER
<i>Developed core application for patent-pending "text readability" algorithm in Python.</i> <ul style="list-style-type: none">• Used <i>natural language processing</i> tools (Word2Vec, FreqDict, Stemmers) to analyze documents.• Algorithm and database were wrapped into Django SaaS application. |
| AUG. 2017
MAY 2017 | Data Analyst at METRO NASHVILLE PUBLIC SCHOOLS
<i>Built interactive reports on teacher vacancies that transformed communication between central office staff and 130+ school leaders.</i> 🌐 <ul style="list-style-type: none">• Honed communication skills with multiple audiences, including executive leadership.• Created data dictionary for clarifying internal discussions about critical terms, such as "retention" and "termination". |
| MAY 2013
JAN. 2013 | Director of Technology at TEACH FOR AMERICA - DELTA INSTITUTE
<i>Led four-person team delivering print, copy, and technology support services to 800+ teachers during intense 5-week summer institute.</i> <ul style="list-style-type: none">• Led four-person team through and regular meetings. 🌐• Improved upon previous year's satisfaction ratings by 10%. |

JUNE 2013	Manager of Regional Operations at TEACH FOR AMERICA - ALABAMA
MAY 2011	<p><i>Managed teacher hiring and on-boarding processes, grant compliance, and financial tracking and reimbursement systems. Delivered results within a fast-paced, start-up environment, as the region grew from supporting 30 teachers to more than 170.</i></p> <ul style="list-style-type: none"> • Promoted after first year, reflecting superior performance and additional people-management responsibilities • Developed first-of-its-kind online learning course to facilitate onboarding of new teachers, contributing to top teacher retention rates in the country. • Oversaw \$119,000 Americorps grant and managed relationships with key parties. Awarded an additional \$66,000 in my 2nd year, a 55% increase over first year. • Designed year-long orientation program to support more than 80 incoming teachers with the transition to Alabama, including creating 10 online training presentations, 4 annual recruitment campaigns, and week-long orientation program. • Organized logistics of two week-long conferences for more than 90 attendees and more than 10 other large professional development events.

PRESENTATIONS AND TEACHING

AUG. 2018	BIOMEDICAL IMAGING ANALYSIS IN PYTHON DataCamp.com <i>An introduction to the principles of computer vision for DataCamp.com</i>
JUNE 2018	REORGANIZATION OF RESTING-STATE NETWORKS DURING READING AND LISTENING: A DEVELOPMENTAL PERSPECTIVE <i>Invited talk at the 2018 Human Brain Mapping meeting Program</i>
APRIL 2018	DECONVOLUTING CONVOLUTIONS: U-NETS FOR OBJECT DETECTION <i>Presentation delivered to the NASHVILLE DATA SCIENCE MEETUP. Repo</i>
FEB. 2018	PRINCIPLES OF NETWORK ANALYSIS WITH NETWORKX <i>Tutorial delivered at the PYTENNESSEE regional conference. Repo</i>
AUG. 2016	LEAD ELL INSTRUCTOR at CONEXIÓN AMÉRICAS <i>Volunteer instructor for course catered to immigrants and refugees.</i>
AUG. 2014	GRADUATE TEACHING ASSISTANT for at VANDERBILT UNIVERSITY <i>Assisted course instruction and grading for the graduate class, SPED 7410: Teaching Reading to Students with Severe and Persistent Academic and Behavior Difficulties.</i>

AWARDS AND HONORS

APRIL 2018	MOST IMPACTFUL KERNEL for KAGGLE'S 2018 DATA SCIENCE BOWL 🏆.
MARCH 2018	Finalist for Vanderbilt's 3 MINUTE THESIS competition 🏆
SEPT. 2016	Won NIH F31 NATIONAL RESEARCH SERVICE AWARD , highly competitive fellowship for predoctoral students, valued at more than \$90,000.
JUNE 2013	Scored in the 99th percentile overall of the GRE®: 730 (Q:50;V:39) 98 th percentile; (89 th percentile)

- MAY 2011 Awarded OMICRON DELTA KAPPA's [John D. Morgan Scholarship](#), given out to the "top overall undergraduate applicant" in ODK.
- MAY 2011 Winner of [SAMFORD UNIVERSITY'S SERVICE AWARD](#), awarded to one senior for "best exemplifying qualities of social service".
- MAY 2011 Winner of SAMFORD'S GREEK MAN OF THE YEAR award, given to one man for embodying the ideals of Greek excellence.

OTHER PROJECTS AND ACTIVITIES

- OCT. 2017 Co-founder of NASHVILLE DATA NERDS [MeetUp](#)
Fostering a data science community in Nashville
- AUG. 2014 V.P. of Education for VANDERBILT TOASTMASTERS
Sharpening speaking techniques and supporting others' development.

SOFTWARE

- Advanced Python (esp. scipy, pandas, matplotlib, scikit-learn), Matlab, bash, Microsoft Power BI and all Office products
- Intermediate Keras, SQL, Docker/Singularity, R, Linux, ubuntu,

SELECTED PUBLICATIONS

For a full list, please see my citations on [Google Scholar](#).

- IN PRESS Bailey et al. Applying a network framework to the neurobiology of reading and dyslexia. *Journal of Neurodevelopmental Disabilities*.
- [2018](#) Ding et al. Detection of synchronous brain activity in white matter tracts at rest and under functional loading. *PNAS*.
- [2017](#) Wendelken et al. Fronto-parietal structural connectivity predicts development of functional connectivity and reasoning. *Journal of Neuroscience*
- [2016](#) Bailey et al. Anomalous gray matter patterns in specific reading comprehension deficits are independent of dyslexia. *Annals of Dyslexia*.
- [2011](#) Bailey. Certainly Uncertain: Nietzschean Pessimism for an Optimistic World. *Stance*.