

Eric Bridgeford

Biomedical Engineer and Computer Scientist

contact

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languages

English, basic French

programming

Python, R, UNIX 
Java, Matlab, SQL
C++, C
Javascript, CSS & HTML

tools

Django, FSL, Git
Docker, EC2, S3
Android

education

- 2013 – 2017 **B.S.** in Biomedical Engineering and Computer Science
minor in Applied Mathematics and Statistics Johns Hopkins University, Baltimore, MD
Thesis work supervised by Dr. Joshua T. Vogelstein on project entitled:
Functional Neurodata Graphs Service: a One-Click Pipeline for the Reliable Esti-
mation of Functional Connectomes.
- 2009 – 2013 **High School** La Salle College High School Wyndmoor, PA

experience

Academic Experience

Positions

- 08/14 – now **Center for Imaging Science, Johns Hopkins University** Baltimore, MD
Undergraduate Researcher under Joshua T. Vogelstein
Design and implementation of an open-source fMRI pipeline for robust one-click
analysis. Development of extensive quality multi-modal MR quality control suite.
Statistical work focusing on making inferences from fMRI connectomes.
- 05/14 – 02/16 **Complex Systems Group, University of Pennsylvania** Philadelphia, PA
Undergraduate Researcher under Danielle S. Bassett
Assisted in the development of novel network theory statistics to compare net-
work performance. Publicly available code for assessing small world propensity
in weighted, real world networks, a statistic that improves the robustness and
scaling of measures of small worldness.

Organizations and Volunteer Work

- 03/08 – now **Special Olympics Male Gymnastics Coach, Hatboro YMCA** Hatboro, PA
Volunteer work mentoring & coaching special needs gymnasts. Head male gym-
nastics coach from 03/11 – 05/14.
- 04/14 – now **Sigma Chi Fraternity, KY Chapter** Baltimore, MD
Chapter Risk manager from 09/14 – 05/15.

awards

- 09/14 – now **Martha A. Lavery Scholarship** Johns Hopkins University, Baltimore, MD
Grant awarded for merit achievement.
- 05/15 – now **Dean's List** Johns Hopkins University, Baltimore, MD
Awarded for maintaining a GPA above a 3.5/4.0.
- 09/15 **Everyblock API Award** University of Pennsylvania Pennapps, Philadelphia, PA
Awarded for the best application making use of the Everyblock API for app Stroll-
Safe.
- 05/13 – now **National Merit Scholar** La Salle College High School, Wyndmoor, PA

interests

professional: pipeling engineering, cloud computing, data analysis, neuroscience, reproducibility, timeseries analysis, machine learning.

personal: guitar, cooking, hiking, biking, scale model warships, rock climbing.

publications

articles in peer-reviewed journals

1. [Small-World Propensity in Weighted, Real-World NetWorks](#)

Sarah F. Muldoon, Eric W. Bridgeford, Danielle S Bassett

Scientific Reports (Feb. 2016).

conference posters

1. [MR Graph with Rich attribUTES DataBase \(Mr. GruteDB\)](#)

Gregory Kiar, William R Gray Roncal, Disa Mhembere, Eric Bridgeford, Shan gsi Wang, Carey Priebe, Randal Burns, Joshua T Vogelstein

Organization for Human Brain Mapping (OHBM) (June 2016).

2. [Quantifying Small Worldness in Weighted Brain NetWorks: Small-World Propensity](#)

Sarah Muldoon, Eric W Bridgeford, Danielle Bassett

Society for Neuroscience (SfN) (Oct. 2015).

3. [The Open Connectome Project & NeuroData: Enabling Data Driven Neuroscience at Scale](#)

Joshua T. Vogelstein, et al.

Society for Neuroscience (SfN) (Oct. 2015).

4. [Community Connectomics via Cloud Computing Utilizing m2g - a Reference Pipeline](#)

Gregory Kiar, et al.

Organization for Human Brain Mapping (OHBM) (2015).

5. [MRImages to Graphs: A One Click Community Pipeline for MR Connectome Analysis](#)

Eric Bridgeford, Gregory Kiar, Will Gray Roncal, Disa Mehembre, Randal Burns, Joshua T Vogelstein

Institute for Computational Medicine Poster Session (2015).

works in progress

1. [Optimal Decisions for Discovery Science via Maximizing Discriminability: Applications in Neuroimaging](#)

Shangsi Wang, Zhi Yang, Xi-Nian Zuo, Michael Milham, Cameron Craddock, Gregory Kiar, William Gray Roncal, Eric Bridgeford, Carey E Priebe, Joshua T Vogelstein

In Preparation (2016).

2. [NeuroData: Enabling Neuroscience for Everyone](#)

Joshua T. Vogelstein, et al.

In Preparation (2016).

3. MRImages to Graphs

Gregory Kiar, et al.

Work in Progress (2016).

4. [Dimensionality Reduction in the Acquisition of fMRI Brain Graphs and its Impact on Discriminability](#)

Eric W Bridgeford, et al.

Work in Progress (2016).

5. [Functional Neurodata Graph Service: a One-Click Pipeline for Functional Connectome Estimation \(FNGS\)](#)

Eric W Bridgeford, et al.

Computer Science Honors Thesis (2016).

6. Dynamic Understanding of the Working Memory Paradigm

Eric W Bridgeford, et al.

Biomedical Engineering Undergraduate Design Project (2016).

talks

1. [“From the Functional Brain to the Connectome: An Introduction to Neuroscience Research in the 21st Century”](#). 2016.