

ANTON ALYAKIN

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EDUCATION

- Washington University in St. Louis** [Aug 2021, May 2029]
Medical Scientist Training Program
Biomedical Informatics & Data Science (Expected)
- Johns Hopkins University** [Jan 2019, Dec 2019]
Master of Science in Engineering
Applied Mathematics & Statistics
- Johns Hopkins University** [Aug 2015, May 2019]
Bachelor of Science
Computer Science
Applied Mathematics & Statistics

RESEARCH

- Johns Hopkins University** [Jan 2020, Mar 2021]
Assistant Research Engineer
Department of Applied Mathematics & Statistics
Faculty Supervisors: Carey E. Priebe & Joshua T. Vogelstein
- Johns Hopkins University** [Jun 2019, Dec 2019]
Graduate Research Assistant
Department of Applied Mathematics & Statistics
Faculty Supervisor: Carey E. Priebe
- Johns Hopkins University** [May 2017, May 2019]
Undergraduate Research Assistant
Department of Computer Science
Faculty Supervisor: Suchi Saria

DISSERTATIONS

1. **A. Alyakin**, *Robust Hypothesis Testing of Location Parameters using Lq-Likelihood-Ratio-Type Test in Python*, a thesis submitted to The Johns Hopkins University in conformity with the requirements for the degree of Master of Science in Engineering, 2019. [arXiv] [library] [code]
2. **A. Alyakin**, *Motif Discovery in the Irregularly Sampled Time Series Data*, a thesis submitted to The Johns Hopkins University in conformity with the requirements for Senior Honors Thesis in Computer Science, 2019.

PUBLICATIONS

1. J. Chung[†], B. Varjavand[†], J. Arroyo, **A. Alyakin**, J. Agterberg, M. Tang, J. T. Vogelstein, C. E. Priebe, *Valid Two-Sample Graph Testing via Optimal Transport Procrustes and Multiscale Graph Correlation with Applications in Connectomics*, Stat, 2021. [arXiv] [journal] [code]
2. K. Marchisio, Y. Park, A. Saad-Eldin, **A. Alyakin**, K. Duh, C. Priebe, P. Koehn, *An Analysis of Euclidean vs. Graph-Based Framing for Bilingual Lexicon Induction from Word Embedding Spaces*, Findings of the Association for Computational Linguistics: EMNLP 2021. [arXiv] [journal] [code]

PREPRINTS

1. M. Powell, C. Clark, **A. Alyakin**, J. T. Vogelstein, B. Hart, *Metformin: We Need to Either Put It in Our Drinking Water or Rethink How We Study It*, submitted, 2021. [arXiv]
2. **A. Alyakin**, J. Agterberg, H. Helm, and C. E. Priebe, *Correcting a Nonparametric Two-sample Graph Hypothesis Test for Graphs with Different Numbers of Vertices*, submitted, 2020. [arXiv]
3. F. Rahman, N. Finkelstein, **A. Alyakin**, N. A Gilotra, J. Trost, S. P. Schulman, and S. Saria, *Using Machine Learning Tools for Early Prediction of Cardiogenic Shock in Patients with Acute Decompensated Heart Failure*, submitted, 2020. [arXiv]

SOFTWARE

microsoft/graspologic (previously **neurodata/graspy**)

Contributor to and maintainer of **graspologic**, an open-source Python package that provides utilities and algorithms for doing statistical analyses on graph- and network-valued data. Notable contributions include latent distribution test implementation and the align module.

alyakin314/lqrt

Author and maintainer of **lqrt**, a Python package that implements the Robust Hypothesis Testing of Location Parameters using Lq-Likelihood-Ratio-Type Test.

Data-Driven Discovery of Models Library - JHU Graph Primitives

One of the primary maintainers of the repository that is JHU's contribution to the D3M's library of selectable primitives that are used as basic building blocks in the automated model discovery process. JHU's primitives are aimed at tackling machine learning problems with graph, or network, inputs, such as Vertex Classification, Community Detection, Link Prediction and Seeded Graph Matching.

TEACHING

Johns Hopkins University

Teaching Assistant

580.475 Biomedical Data Science

Fall 2019

553.430/630 Introduction to Statistics

Spring 2019

553.436/636 Data Mining

Fall 2018

AWARDS

Johns Hopkins University

Applied Mathematics & Statistics Prize for Outstanding Master's Research

2020

Applied Mathematics & Statistics Achievement Award

2019

Undergraduate General Honors

2019

Undergraduate Departmental Honors with Thesis, Computer Science

2019

Undergraduate Departmental Honors, Applied Mathematics & Statistics

2019

SKILLS

Languages (in order of proficiency):

Python (including PyTorch and TensorFlow), English, Russian, R, Matlab, Java, C++.

Other skills:

L^AT_EX, Git, Databases (PostgreSQL, BigQuery), Bouldering (6C/V5), Lead climbing (6B/5.10).