ANTON ALYAKIN

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319A Clark Hall, 3400 North Charles Street, Baltimore, MD, 21218

EDUCATION

Washington University in St. Louis *[Aug 2021, May 2029]*
Medical Scientist Training Program *(Expected)*
Biomedical Informatics & Data Science

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

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*

THESES

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. [library] [arXiv] [code]
2. **A. Alyakin**, *Motif Discovery in the Irregulary 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. 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*, accepted for publication, Findings of EMNLP, 2021.

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. 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: Applications in Connectomics*, submitted, 2021. [arXiv]
3. **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] [code]
4. 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 mainterners 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 netowrk, inputs, such as Vertex Classification, Community Detection, Link Prediction and Seeded Graph Matching.

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

Programming Languages (in order of proficiency):

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

Languages:

English, Russian.

Other skills:

LaTeX, Git, Databases (PostgreSQL, BigQuery), Bouldering (Redpoint 6C/V5).