MICHAEL WILSON

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EDUCATION

Ph.D. in Statistics   August 2019 - Present
Florida State University - GPA: 3.72

B.A. in Applied Mathematics, with Minors in Applied Statistics and Computer Science   August 2014 - May 2019
Humboldt State University - GPA 3.46

CURRENT RESEARCH

Statistical Analysis of Shape Distributions, with applications to DTMRI   October 2021 - Present
Ph.D. Advisor: Dr. Anuj Srivastava, Florida State University

- Using data from the Grady Trauma Project, we are classifying disease status based on DTMRI imaging of white matter fiber tracts, with promising results. Currently, using functional optimal transport, we are able to get >80% test set classification accuracy for disease status based on single regions.

Elastic Functional Optimal Transport   June 2022 - Present
Ph.D. Advisor: Dr. Anuj Srivastava, Florida State University

- This research direction seeks to integrate the Elastic Functional Data Analysis framework with Functional Optimal Transport, which would allow for optimal transport according to a shape invariant metric.

RESEARCH EXPERIENCE

Pharmacokinetic Modelling of ^{18}FDG Uptake in PET imaging of Atherosclerosis   June 2019 - August 2019
Summer Internship - National Institutes of Health, Clinical Center, Department of Nuclear Medicine

- Wrote scripts in R to implement a 3-compartment pharmacokinetic model of ^{18}FDG uptake to make predictions of changes in inflammation between scans, and began adapting the model for full spatial simulation of uptake along the aorta.

Mapping the Developmental Switch from GABA Excitation to Inhibition in Zebrafish Larvae   June 2018 - December 2018
Psychology Research Project - Gahtan Lab

- Wrote scripts in Matlab to convert calcium imaging recordings of neural activity in larval zebrafish into data about levels of activity in 4 brain regions. Abstract was accepted for a poster presentation at the Society for Neuroscience 2018 conference.

WORK EXPERIENCE

Graduate Teaching Assistant, Graduate Research Assistant   August 2019 - August 2021
Department of Statistics, Florida State University

- Organized and taught an introductory statistics course

SKILLS

Programming Languages: Python, Matlab, R, SQL