MAX MELNIKAS

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Education

Harvard Chan School of Public Health, Boston, MA
M.S. in Biostatistics expected 05/25
Relevant Coursework: Applied Regression Analysis, Introduction to Data Science, Basics of Statistical Inference, Introduction to Epidemiology, Decision Analysis for Health and Medical Practices

Brandeis University, Waltham, MA
B.S. in Neuroscience and Biology with minors in Computer Science and Chemistry received 05/23
Relevant Awards: Magna Cum Laude, Dean's List, Bauer Research Fellow, Lithuanian Jewish Community Scholar

Experience

Beiwe Service Center, Boston, MA 09/23 onwards
Research Assistant, Dr. Onnela's Laboratory

- Provide study support to 5+ external research teams capturing digital data such as GPS, accelerometer, and surveys using the iOS and Android Beiwe app
- Maintain an open-source, python-based statistical package that processes raw Beiwe data into useful summaries
- Demonstrate usage of this statistical package to research teams and support their analysis
- Identify new software bugs to the development team and disseminate resolutions to the research community
- Identify and troubleshoot issues in participant data collection and user experience

Brandeis University, Waltham, MA 08/20 to 12/22
Teaching Assistant
Computer Science: Discrete Structure, Computer Science: Data Structure and General Chemistry Laboratory

- During the pandemic, when chemistry lab was offered only remotely, designed a procedure for an online, simulation-based chemistry laboratory experiment
- Led laboratory sessions and theory reviews for groups of 20+ chemistry laboratory students
- Provided one-on-one tutoring and coding support to students
- Provided feedback on students' programming assignments and laboratory write-ups

Marcus Institute, Hebrew SeniorLife, Roslindale, MA 06/22 to 08/22
Research Intern

- Proposed a standardized home-based tES protocol as part of a written review of previously-published literature
- Assisted in statistical analysis for a multi-site aging study that provided patients with personalized health insights
- Participated in lab and home-based screenings for cognition and mobility and assisted in participant recruitment

Projects

Pathos: Associations between word choice and reported emotions 09/23 to 12/23

- Found a dataset of 1500 free text responses about participants' days labelled with 18 emotions on Kaggle
- Identified most frequent words and word pair co-occurrences using the Apriori algorithm
- Reduced original 18 emotions down to 6 categories and used logistic regression to calculate odds ratios for emotional outcomes based on co-occurrences of frequent word pairs

Sweet Dreams: Regression analysis of the relationship between nutrition and sleep quality 09/23 to 12/23

- Accessed various 2017-2018 NHANES datasets to gather nutrient, sleep and demographic data
- Explored data missingness and confounding to control for relevant demographic features
- Developed linear, logistic and multinomial regression models to assess macronutrient relationships to various sleep outcome that were recorded in the data

Skills

Computational: Regression analysis, Survival analysis, Data mining, Feature Selection, Clustering, Outlier Detection, Natural language processing, Data visualization, Neural modeling, Image processing, PCA, EDA
Software: R, Python, Matlab, Github, Quart, Java, Unix, LaTeX, RedCap, Microsoft Office, Slack
Packages: Pandas, Numpy, TensorFlow, Sklearn, Tidyverse, Ggplot2, Glmnet, Survival, Caret