Statistical Modeling of Genomic and Biomedical Data

Overall Research Objectives:

- Developing statistical methods for inference-based analysis of biological data
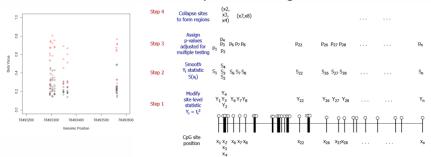- Collaborating with scientific teams to answer research questions using statistical methodology

Statistical Genomics Topics:

- Detecting Differentially Methylated Regions
- Meta-Analysis of Gene Expression Data
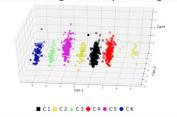
Statistical Modeling of Biomedical Data Topics:

- Modeling Sleep in the Fruit Fly
- Statistical Methods for Explainability in Unsupervised Learning Applications of Biomedical Data

Differential methylation testing

Visualizing and explaining TBI clusters via statistical analysis

PoC

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- Funding agencies: NIH, Leonard Wood Institute, Missouri Department of Higher Education

Statistical Keywords: Cluster analysis, functional data analysis, imputation, meta-analysis, multivariate statistics, multiple testing, regression

Biomedical Data Keywords: Traumatic brain injury (TBI), sleep, cancer, mesenchymal stem cells

Publications:

- Link to my publications