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The development of statistical and computational tools has transformed modern science. Our lab aims to develop novel statistical methodologies and scalable computational tools to analyze large-scale and complex biomedical data.



Machine learning in biomedical data:
searching a needle in haystacks.

Keywords

Self-supervised learning, representation learning, multi-omics data, microbiome data, imaging data

Research Interests

- Self-supervised representation learning
- High-dimensional statistics
- Applications in biomedical data (including multi-omics, microbiome, and imaging data)

Current Projects

- Foundation of self-supervised learning
- Data integration in multiple studies
- Trajectory analysis in temporal multi-omics data
- Compositional data analysis with zeros

Interest Areas for Collaboration/Future Work

Our lab is interested in studying the foundation of modern machine-learning methods and developing computational algorithms for complex biomedical datasets.