

Modeling Big Data in Biology and Medicine for Precision Medicine

Causal discovery of genomic variants for diseases

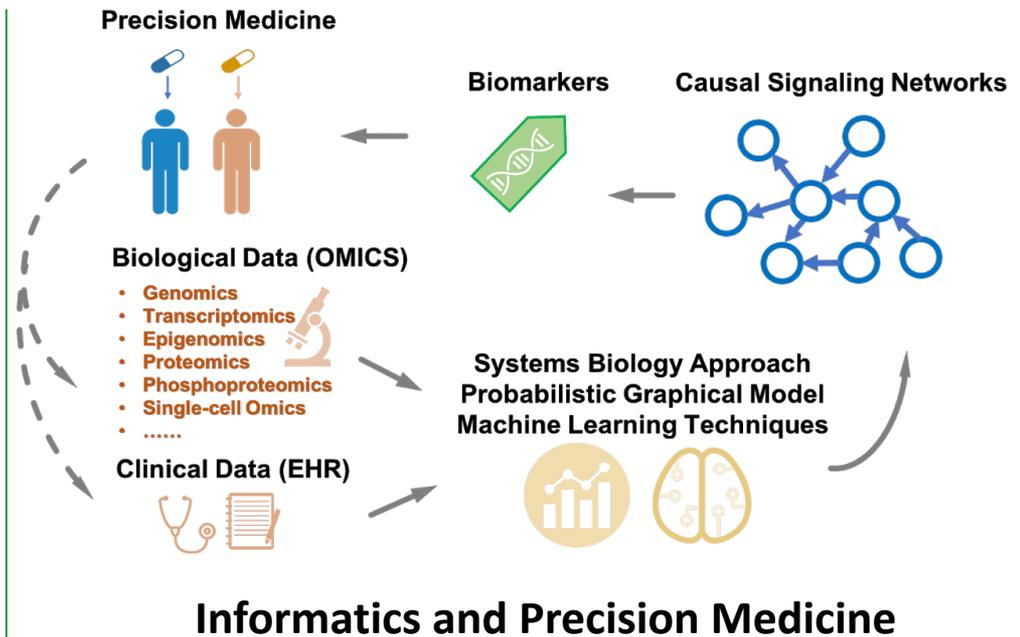
- An instance-specific causal machine learning framework
- Whole genome sequencing and SNP data from FHS

Multi-omics data analysis to reveal the causal signaling networks underlying diseases

- RPPA, mRNA, DNA mutation data from cancer patients
- Causal Bayesian Networks (CBNs)

Machine learning-assisted material design

- Apply statistical analysis and machine learning techniques in collaborators' disciplines for data mining
- Prediction of material properties with its composition and processing



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Awards

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- ❖ National Library of Medicine Fellowship, 2017-2019

Keywords

Big Data Analytics, # Machine Learning, # Biomedical Informatics, # Precision Medicine, # Systems Biology, # Causal Inference