Machine learning for precision medicine

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Abstract:

The possibility to collect large amounts of genomic data from cancer patients paves the way to automatic patient stratification and improved prediction of survival, risk of relapse or response to a therapy, which are important to develop precision medicine strategies where the treatment of each patient is adapted to the molecular characteristics of the tumor. Machine learning plays a central role to infer stratification and prediction rules, but the problems are challenging due to the size and nature of the data. In this talk I will discuss opportunities and challenges in this field, and illustrate a few research direction to learn effectively from genomic data.