

Keynote 2: Text mining in precision medicine: opportunities and challenges

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The promise of precision medicine is to enable medical practitioners to make better clinical decisions through incorporating individual variability in genes, environment, and lifestyle for each person. The anticipation of precision medicine is to increase prevention and prediction of disease, enable earlier disease intervention, improve targeted therapies, reduce side effects, and therefore reduce healthcare costs with better patient outcomes. A huge amount of information related to precision medicine is buried in text. Text mining techniques such as information retrieval or natural language processing (NLP) play a vital role in advancing precision medicine research and delivery. In this talk, we will first review literature and various activities in the text mining community for precision medicine. We will then introduce the precision medicine activities at Mayo Clinic. Some of our ongoing text mining efforts in contributing to the text mining community and enabling the use of text mining techniques for advancing precision medicine research and delivery institutionally will be discussed. Challenges faced in delivering text mining solutions for precision medicine will be discussed.