

Machine Learning for Healthcare Data

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Abstract

We will present the healthcare settings we have been working on at Duke University, and the machine learning methods which we have recently developed to improve patient outcomes. These include: 1) Modeling disease trends and other predictions from electronic health record (EHR) data, including for sepsis and chronic kidney disease. The use of a Gaussian process framework for modeling time series health data is explored. 2) Mobile apps and devices for improving the granularity of recorded health data and 3) The combination of mobile app and social network information, and the development of Graph-coupled hidden Markov models for predicting the spread of influenza in student dormitories.