

Learning and Predicting Human Behavior with Stochastic Models

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Abstract— We live in era where it is easy to collect very large data sets that capture many aspects of human behavior. Such data sets include records of human behavior in both the digital world (Web navigation data for example) and the physical world (sensor streams from instrumented buildings). Analyzing and understanding such data has numerous applications in business, medicine, security, social science, and so on. This talk will briefly discuss recent research and some key ideas related to learning of stochastic models of human behavior. An important aspect of building such models is to allow for both heterogeneity of behavior as well as commonly-shared characteristics. A number of examples will be used to illustrate these ideas including models of Web surfing behavior, author-specific models for text documents, and time-series models of human movement.