



## “DATA-DRIVEN HEALTHCARE: VISUAL ANALYTICS FOR EXPLORATION AND PREDICTION OF CLINICAL DATA ”

**APRIL 20, 2016**

**Abstract:** Healthcare institutions are now recording more electronic health data about patients than ever before, including data about patient conditions, lab tests, genomics, treatments, and outcomes. However, an open question remains on what one can do with all of this data. Many hope that if researchers tap into this real world observational data, the healthcare system can be leveraged to unearth insights to improve the quality of care. My research focuses on building interactive visual systems that support exploration so clinicians and researchers can derive such insights. During this talk, I will highlight examples of such systems, including visualizing the disease progression of patients and tools to support cohort analysis.

However, there are a growing number of healthcare professionals that wish to go beyond exploring data: they do wish to interpret their data but they also want to know what might happen next. Predictive modeling is becoming a common practice among clinical researchers to fill this gap, but these techniques are often black boxes that may limit domain experts' contributions to the models. My current research investigates the role of visualization in prediction. In this talk, I will discuss systems that we've built to highlight how informative visualizations can assist in all stages of predictive modeling, from cohort selection to feature selection, and can result in more accurate and comprehensible predictions.

**Bio:** Adam Perer is a Research Scientist at IBM's T.J. Watson Research Center, where he is a member of the Healthcare Analytics Research Group. His research in visualization and human-computer interaction focuses on the design of novel visual analytics systems. He received his Ph.D. in Computer Science from the Human-Computer Interaction Lab at the University of Maryland, advised by Ben Shneiderman. His work has been published at premier venues in visualization, human-computer interaction, and medical informatics.



**Adam Perer**

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Talk  
**1:15-2:30PM**

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