

Multivariate Data Analysis Made Easy

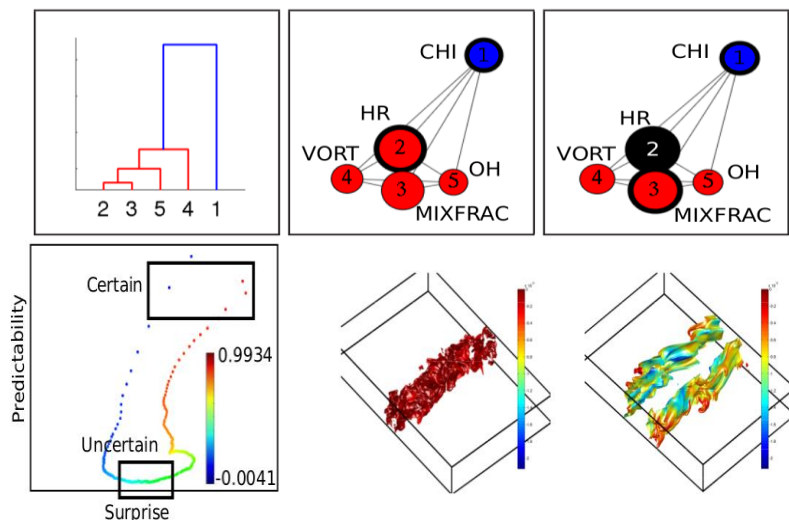
Ayan Biswas, Sumya Dutta, Han-Wei Shen, Jonathan Woodring

Objectives:

- Analyze large scale multivariate scientific data sets
- Understand the relationship between the variables and their importance
- Understand the correlation and variability between user-selected variables
- Create an intuitive graphical user interface that allows the scientists to perform step-by-step analysis and data filtering

Impact:

- Simplify the task of variable selection and browsing via an information-theoretic analysis framework
- Allow run time data reduction by selecting only the most important variables to explore
- Facilitate intuitive and systematic visual analysis for exploring large scale multivariate scientific data



Multivariate combustion data exploration

Results

- Software
 - ITL: Information Theoretic Data Analysis Library (in progress)
- Publication
 - Ayan Biswas, Soumya Dutta, Han-Wei Shen, Jonathan Woodring, An Information-Aware Framework for Exploring Multivariate Data Sets, IEEE Scientific Visualization 2013, also in IEEE Transactions on Visualization and Computer Graphics, 19(12): 2683-2692 (2013)