Exploration of a Multi-Dimensional Astronomy Dataset

CSE 512 Project Feedback

Nicole Atherly, Mahir Kothary, Grace Telford

Motivation

Dataset: ~tens of properties for ~100,000 galaxies

Issues:

- Parameters derived from modeling light distribution
- Basically all galaxy parameters are correlated with each other → Potential biases!

Goal: Interactive, deep search for anomalous correlations

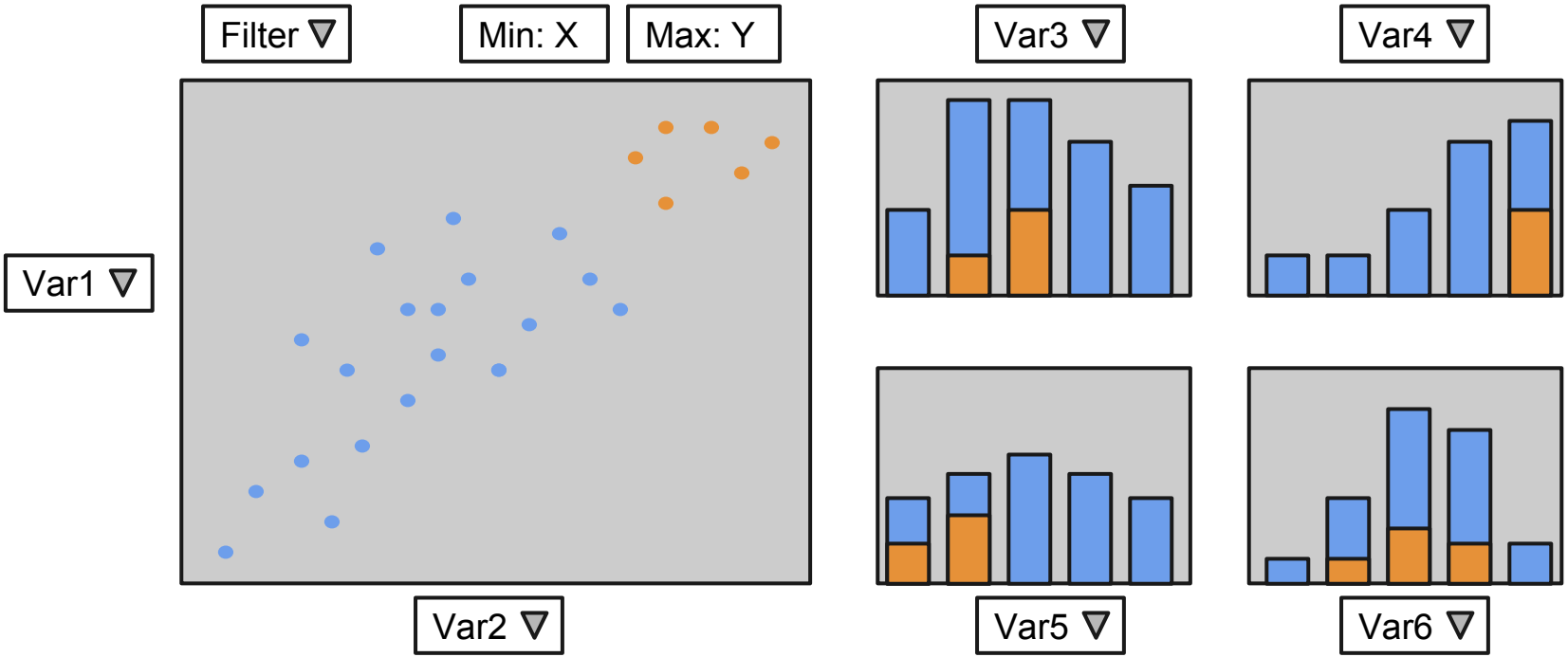
Relevant Prior Work

- Ggobi
- Parallel coordinates

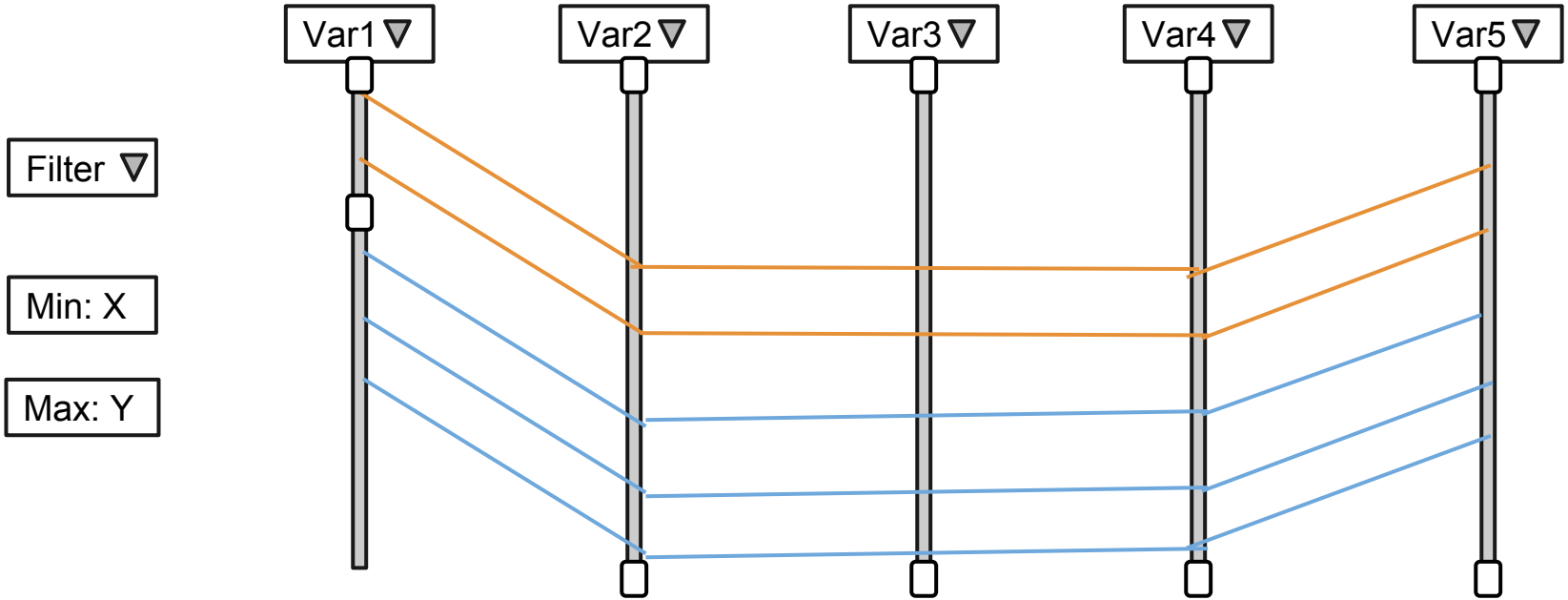
Our project will be tailored to this galaxy dataset and will cater to users who want to drill down into the details

- Dynamically filter data and change variables displayed
- Inspect distributions of subsamples vs. whole

Storyboard



Storyboard



Feedback Questions

- Are there other capabilities you would want if you had to look for biases in a complex, high-dimensional dataset?

- Thoughts on customizability vs. clutter?
  - E.g., ability to change type of plot, number of bins in histograms, axis ranges, …