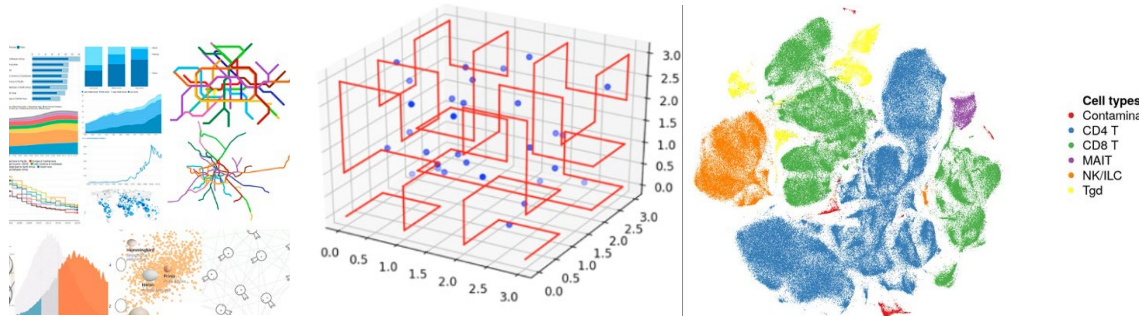


Space Filling Curve for Visualization of High Dimensional Data



Project Description:

In the big data era, analysts need to understand complex phenomena whether in various domains of science like genomics, climate, cyber-security. These data are high-dimensional and the challenge is to visualize them using scalable projection techniques to get meaningful and synthetic scatterplot representations that make visible the hidden patterns. We develop a new projection technique based on space filling curves. We want to implement an interactive visualization to control the parameters of this projection and explore high-dimensional data with that tool. We need to develop the functionalities to connect different projections in the interface, then to run scalability and accuracy tests to evaluate the efficiency of that technique.

Duties/Activities: Implementing the projection with interactive dashboard with Bokeh and Python 3.

Required Skills: Base knowledge of Python 3 and Bokeh, base knowledge of projection and indexing techniques.

Preferred Intern Academic Level: BSc 3rd year or BSc 4th year

Learning Opportunities: Advanced visualization and interactions with Bokeh, analysis of high-dimensional data

Expected Team Size: 2

Mentors

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