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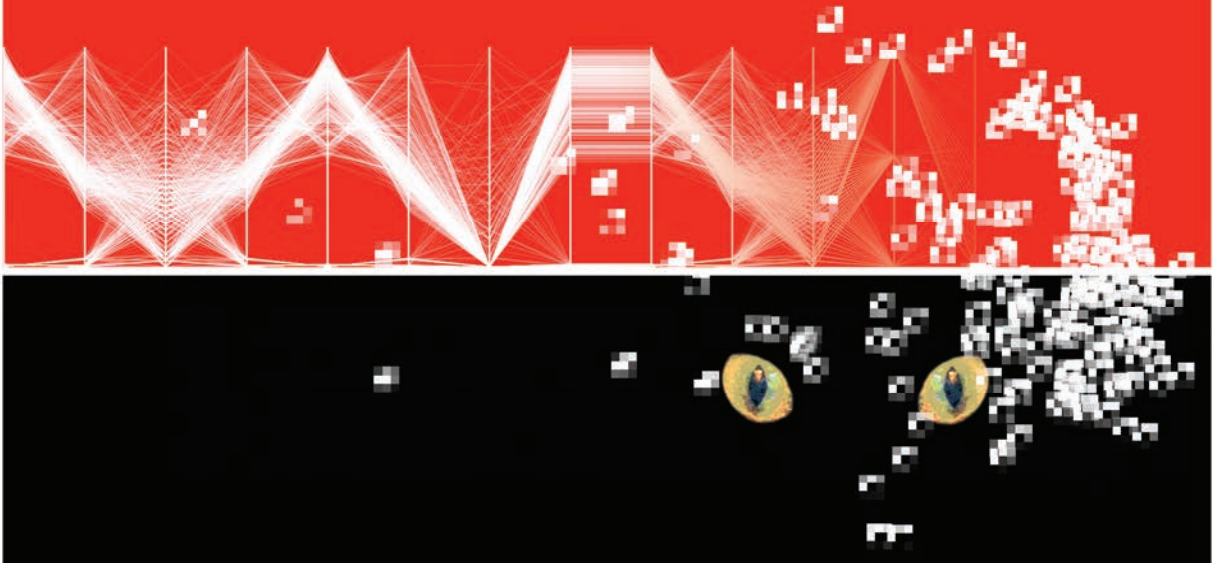

EXPLORATIVE APPROACHES FOR HIGH DIMENSIONAL, MIXED AND CATEGORICAL DATA

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Algorithmically Guided Information Visualization:
Explorative Approaches for High Dimensional,
Mixed and Categorical Data

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Facilitated by the technological advances of the last decades, increasing amounts of complex data are being collected within fields such as biology, chemistry and social sciences. The major challenge today is not to gather data, but to extract useful information and gain insights from it. Information visualization provides methods for visual analysis of complex data but, as the amounts of gathered data increase, the challenges of visual analysis become more complex.

This thesis presents work utilizing algorithmically extracted patterns as guidance during interactive data exploration processes, employing information visualization techniques. It provides efficient analysis by taking advantage of fast pattern identification techniques as well as making use of the domain expertise of the analyst. In particular, the presented research is concerned with the issues of analysing categorical data, where the values are names without any inherent order or distance; mixed data, including a combination of categorical and numerical data; and high dimensional data, including hundreds or even thousands of variables.