

Nowadays, data are an integral part of our lives. Their volume is growing every day, and it often prevents us from understanding what these data means. The object of this thesis is to develop an application for large dataset analysis and visualization. Thesis also explores statistical methods used to reduce volume and dimensionality of data and implements selected algorithms from this field. Another goal is to explore the possibilities of modern graphics cards, as their performance increases every year. The visualization should use a graphics processor with data are shown as points in point-cloud in 3D space and user should be able to browse this data interactively.