

UNIVERSITY OF SOUTH FLORIDA

Defense of a Doctoral Dissertation

Constructing Frameworks for Task-Optimized Visualizations

by

Ghulam Jilani Quadri

For the Ph.D. degree in Computer Science and Engineering

Visualization is crucial in today's data-driven world to augment and enhance human understanding and decision-making. Effective visualizations must support accuracy in visual task-This dissertation describes experiments, techniques, user studies to mo visualization design optimization and data transformation for low level through a taxonomized state-of-the-art survey on perception-based visu is task-dependent. With a specific focus on the scatterplot, I develop optimization. In addition to design guidelines from the first experiment