UNIVERSITY OF SOUTH FLORIDA

Defense of a Master's Thesis

A Study of the Effectiveness of Topology-based Scalar Field Vis
Techniques on Comparison Tasks
by
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For the MSCS degree in Computer Science

When visualizing data, we would like to convey both the data and the uncertainty associated with it. There
ice Diagrams, that each demonstrates some level of topological representation of the data. We build and run a user
evaluating the perception of various Gaussian signals applied on 3D models using each of the visualization
es, and measure their effectiveness. We show that for positional variation, Reeb graphs are most accurate, whereas
ude variation, Color Maps are most accurate. All techniques show high confidence, except for Color Maps. These
results help us understand what scenarios topology based tools are best suited for.

Thursday, September 17, 2020 THE

PUBLIC IS INVITED

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