

# UNIVERSITY OF SOUTH FLORIDA

## Major Research Area Paper Presentation

*Computing with Spatial Trees on GPUs*

by

*Zhila Nouri*

*For the Ph.D. degree in Computer Science & Engineering*

Positions of objects in space play an important role in the functionalities of spatial queries. It has been proven that the prerequisite of having efficient spatial queries processing in large data sets is having relying index-based spatial data structures for accessing data. Although organizing the input data using a tree data structure, and having efficient algorithms that utilize those structure to perform different operations are key solutions, they are not enough to get the ultimate desired performance. The key solution is parallelism. Over the past few years, General Purpose Graphical Processing Units have become a powerful solution for many parallel algorithms. Therefore, the focus of this survey is to overview the previous works that took advantage of this powerful setup to improve the computing related problems in the context of spatial trees.

*July 11, 2017*

*11:00 AM*

*ENB 313*

THE PUBLIC IS INVITED

*Examining Committee*

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Graduate Program Director  
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College of Engineering

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College of Engineering

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