UNIVERSITY OF SOUTH FLORIDA

Major Research Area Paper Presentation

Fast Viewshed Computing Algorithm on GPU

by Faisal Qarah

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

Viewshed computing and visibility analysis is the problem of finding visible areas on the map to a certain point-of-interest. Viewshed algorithms are widely used in GIS applications, games development, and in creating communication networks. However, current viewshed algorithms with high accuracy are suffering from poor performance compared to other algorithms that approximate the visibility results. Based on the necessity for having an accurate and time-efficient algorithm, this work presents a parallel radial-sweep algorithm on GPU for efficient viewshed computing.

> Monday, April 20, 2020 3:00 PM Online (Collaborate Ultra)

THE PUBLIC IS INVITED

<u>Examining Committee</u> Yicheng Tu, Ph.D., Major Professor Adriana Iamnitchi, Ph.D. Yan Zhang, Ph.D. Zhuo Lu, Ph.D. Joni Downs, Ph.D.

Yu Sun, Ph.D. Graduate Program Director Computer Science and Engineering College of Engineering

Sudeep Sarkar, Ph.D. Department Chair Computer Science and Engineering College of Engineering

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