Thomas Watts

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Education:

Ph.D. in Computing, University of South Alabama, School of Computing, degree expected May 2019
M.S. in Information Systems, University of South Alabama, School of Computing, December 2015
B.A. in History (Minor in Computer Science), University of Alabama, Department of History, May 2011

Dissertation:

"Mapping the Cloud: Exploring Dynamic Virtual Systems"

This study focuses on building visual analytics of functioning cloud infrastructure where computational nodes are frequently changed. It maps changes within the network through a combination of data pre-processing techniques in order to provide a time series visualization to display the cloud's state changes. These analytics are then used for monitoring the health of the cloud system, and as a trigger for a forensic investigation.

Dissertation Readers: Assistant Professor Ryan Benton (chair), Associate Professor William Glisson, Professor Jordan Shropshire

Professional Experience:

University of South Alabama, School of Computing
Research Assistant, December 2015 - Present

Instructor, January 2016 – December 2016
C# Model-View-Controller

Teaching Assistant, August 2014 – December 2014
Data Structures

Sponsored Projects:

"MRI: Acquisition of Adaptive Cluster for Performance and Forensics Analysis of Distributed Machine Learning", funded by the National Science Foundation. Role: Graduate Researcher. October 1, 2017 – September 30, 2020. Developing an architectural build plan, as well as policy and maintenance criteria for the cluster, that supports multiple types of users and applications

"Visual Analytics for Cloud Ecosystems", funded by the Industry Advisory Board for the Center for Advanced Research in Forensic Science, August 2017 – July 2018. Role: Graduate Researcher. Identified and evaluated several traditional segmentation algorithms on nontraditional images. The algorithms exploited both color and texture features.

Publications:

- Papers

T. Watts, R. Benton, W. Glisson, J. Shropshire, "Container Forensics Analysis through Introspection Tools" – In Progress

P. Luckett, **T. Watts**, R. Benton, T. McDonald, "Deep Convolutional Phase Space for Detection of Seizures" – In Progress

- Posters/Abstracts

T. Watts, R. Benton, W. Glisson, J. Shropshire, "Virtual Container Introspection Tools for Digital Forensics", 25th Annual University of South Alabama Graduate Research Forum, March 2018

T. Watts, R. Benton, W. Glisson, "Cloud Forensics through Hypervisor Log Analysis", 24th Annual University of South Alabama Graduate Research Forum, March 2017

- Selected as sample abstract for those submitting to 25th Annual University of South Alabama Graduate Research Forum

T. Watts, R. Benton, T. Andel, "Training Time for Artificial Neural Networks", 24th Annual University of South Alabama Graduate Research Forum, March 2017

Invited Presentations:

"Training Time for Artificial Neural Networks", Data Sciences Research Forum, University of South Alabama, November, 11, 2016

"Container Forensics Analysis through Introspection Tools, Digital Forensics Research Forum, University of South Alabama, April 4, 2018