Adam Dalton Resumé

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EDUCATION

University of Central Florida (Orlando, FL)

M.S. in Modeling and Simulation, August 2006

McGill University (Montréal, Québec, Canada)

B.S. in Honours Computer Science, May 2004

RESEARCH INTERESTS

I am pursuing a doctorate in computer science to advance the state of the art in belief modeling, cyber security, natural language processing, and human-agent teamwork.

RELEVANT PUBLICATIONS

Carvalho, M., Eskridge, T. C., Bunch, L., Dalton, A., Hoffman, R., Bradshaw, J. M., … & Shanklin, T. (2013, August). MTC2: A command and control framework for moving target defense and cyber resilience. In *Resilient Control Systems (ISRCS), 2013 6th International Symposium on* (pp. 175-180). IEEE.

Wilks, Y., Galescu, L., Allen, J., & Dalton, A. (2013). Automatic Metaphor Detection using Large-Scale Lexical Resources and Conventional Metaphor Extraction. *Meta4NLP* 2013, 36.

Sharawi, A., Sala-Diakanda, S. N., Dalton, A., Quijada, S., Yousef, N., Rabelo, L., & Sepulveda, J. (2006, December). A distributed simulation approach for modeling and analyzing systems of systems. In *Simulation Conference, 2006. WSC 06. Proceedings of the Winter* (pp. 1028-1035). IEEE.

RESEARCH EXPERIENCE

Institute for Human and Machine Cognition (Ocala, FL)

Research Associate, 2012-Present

- Conversation Understanding through Belief Interpretation and Sociolinguistic Modeling (CUBISM): Co-author on an awarded proposal for the DARPA DEFT project. Constructed a system that brings together research related to dialogue understanding along participants' internal mental content, and participants' social roles and relationships. Managed the integration of research efforts across three geographically and institutionally distributed sites and the program sponsor. Led the design of the application program interface. Selected, installed, configured, and maintained operations infrastructure.
- Moving Target Defense (Computer Network Security): Wrote a framework for generating baseline and attack traffic to evaluate Moving Target Defenses on computer networks. Developed traffic generators for benign and malicious SMTP, HTTP, FTP, IRC, DHCP, and DNS traffic. Design a network testbed and scenarios for experimentation with different configurations of network attacks and defenses.
- Metaphor Extraction via Analysis of Language: Integrated multiple different human language technology systems, including WordNet, VerbNet, and the Stanford Parser, in order to develop a novel method for detecting conventional metaphors in unstructured text.

Institute for Simulation and Training (Orlando, FL)

Research Associate, August 2004-May 2006

- Developed a multi-paradigm distributed supply chain simulation using the High Level Architecture to combine Discrete Event, Continuous, and Agent Based simulation engines.
- Research RFID technologies for applications in pathfinding with augmented reality.

WORK EXPERIENCE

NASA (Kennedy Space Center, FL)

Technical Lead - Information Architecture, Launch Control System, 2008 - 2012

- Responsible for managing the information that supports ground services during tests, operations, and launch of space flight hardware. Responsible for leading a team of eight contractors and civil servants in development and test activities
- Supervised numerous students on projects
- Worked on a multi-Center effort to establish a Space System ontology
- Designed an adapter to map data stored in a semantic web database to Java classes
- Introduced RESTful web services to the project in order to reduce complexity of messaging between applications on the project

Lead Developer, Workforce Planning and Information Systems, 2006 - 2008

- Completed a multi-paradigm simulation of the workforce in order the analyze skill gaps and surpluses over a period of time that saw the retirement of the Space Shuttle and establishment of next generation spaceflight systems
- Provided development capabilities for information systems responsible for improving the management of projects including employee buyouts, certification and skill tracking, training programs, and mentoring

TEACHING & OUTREACH

Science Saturday: Developed and taught lessons to classes of 30 third and fifth graders
@KSC_MOCOP: Created and operated a popular outreach Twitter account that improved the use of social media at the Kennedy Space Center and increased engagement with the community around spaceflight.
2013 Sunshine State Scholars Keynote Speaker: Invited to speak about my STEM education and career in Florida

SKILLS AND TOOLS EXPERIENCE

Programming: Ruby, Java, Javascript, Python, C
Frameworks: Ruby on Rails, JBoss, Metasploit, JQuery, D3
System Administration: CentOS, Ubuntu, OS X, Debian, Postfix, Dovecot, Apache, Syslog

AWARDS AND HONORS

Space Flight Awareness Award (2012)
Kennedy Space Center Certificate of Commendation (2011)
Group Achievement Award for LCS Information Architecture Trade Study Team (Project Lead, 2011)
Multiple Mentor Awards

RELEVANT COURSES

Malicious Software and its Underground Economy: Two Sides to Every Story (Coursera 2013), Computer Networks (Coursera 2013), Operations Engineering (UCF 2006), Operations Research (UCF 2005), Discrete System Simulation (UCF 2005), Decision Analysis (UCF 2005), Interactive Simulation (UCF 2004), Fundamentals of Computer Vision (McGill 2004), Computer Graphics (Mcgill 2003), Artificial Intelligence (McGill 2003)