John Gideon

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Education

Ph.D. Computer Science and Engineering, University of Michigan, in progress

M.S. Computer Engineering, University of Cincinnati, August 2013

B.S. Electrical Engineering, University of Cincinnati, April 2013, *Magna Cum Laude*

Minor Mathematics, University of Cincinnati, April 2013

Research Experience

Computational Human-Centered Analysis and Integration Lab Fall 2013 – present
University of Michigan *Ann Arbor, Michigan*
Investigated the field of emotion and mood processing with Professor Emily Mower Provost. Researcher on the PRIORI project, which aims to use mobile phone calls from individuals with bipolar disorder to determine when they are symptomatic. Explored a variety of techniques including signal processing, clinically directed feature creation, and machine learning in order to construct a working system.

Virtualized Beowulf Clusters with Low Latency Messaging Fall 2012 – Summer 2013
University of Cincinnati *Cincinnati, Ohio*
Showed a custom virtualized operating system with much lower native network latency. Designed and implemented llamaMPI – a combination of the Message Passing Interface (MPI) and llamaOS, a custom low-latency operating system. This allowed for integration of already existing applications with a speedup of up to 70%. The final result was tested with the NAS Parallel Benchmarks and the WARPED parallel discrete event simulator.

Environment Tracking and Augmentation Senior Project Fall 2011 – Spring 2012
University of Cincinnati *Cincinnati, Ohio*
Constructed a model of various housing interior rooms using an online custom tracking algorithm employing the Kinect device. The models were then augmented in real time on the normal video display with various informative computer graphics.

Publications

Soheil Khorram, **John Gideon**, Melvin McInnis, and Emily Mower Provost. "Recognition of Depression in Bipolar Disorder: Leveraging Cohort and Person-Specific Knowledge." *INTERSPEECH*. 2016. (*accepted*)

John Gideon, Emily Mower Provost, and Melvin McInnis. "Mood State Prediction from Speech of Varying Acoustic Quality for Individuals with Bipolar Disorder." *ICASSP*. Shanghai, China. March, 2016. (*oral presentation*)

John Gideon. "The Integration of Llamaos for Fine-Grained Parallel Simulation." University of Cincinnati. OhioLINK Electronic Theses and Dissertations Center. 2013. (*thesis*)

Professional Experience

Graduate Student Instructor September 2013 – April 2014
University of Michigan *Ann Arbor, Michigan*
Supported the teaching of the introductory programming and data structures course with mostly sophomore level students. Leading own discussion and lab section, for which I prepared my own presentations. Mentoring students during office hours which allow for more directed advice.

Engineering Researcher April 2013 – August 2013
Procter and Gamble / University of Cincinnati Simulation Center *Cincinnati, Ohio*
Performed research and improved key software as a contractor to Procter and Gamble. Revamped existing R scripts to run simulations orders of magnitude faster. Completed extensive analysis of a new image processing algorithm in MATLAB. Conducted a literature review and will help write a publication.

Engineering Co-op (5 quarters and part time) January 2010 – December 2012
General Electric Aviation *Cincinnati, Ohio*
Conducted research and development on a new embedded testing system. Utilized new state of the art multicore digital signal processing and FPGA technologies. Developed various communication protocols, such as Controller Area Network, Serial Communications Interface, Serial Peripheral Interface, and Universal Serial Bus. Used formal development processes including coding standards and version control. Reduced testing costs significantly and increased data accuracy versus previous system. Gave formal presentations, developed user documentation, and provided support.

Honors and Awards

Mantei/Mae Academic Achievement Award (2012 and 2013)

Graduated Magna Cum Laude on Dean's List all semesters

University of Cincinnati Distinguished Honors Scholar

University of Cincinnati Cooperative Education and Practice Participant

Eagle Scout medal with Bronze Palm, Boy Scouts of America (2007)

Membership

Member, Eta Kappa Nu, Electrical Engineering Honor Society (2011 – present)

Member, Tau Beta Pi, Engineering Honor Society (2012 – present)

Member, IEEE (2008 – present)

President, GradTONES (2013 – present)

Vice President, University of Cincinnati Choruses (2008 – 2013)

Technical Skills

Fluent in MATLAB, Python, Perl, Java, C++, VHDL, Verilog, C, C#, VB, R, Ada, and .Net

Familiar with Xilinx ISE, Code Composer Studio, Eclipse, and Qt

Extensive use of version control systems including Git, Subversion, and Synergy