Jamar Robinson, CV
Email: jrobinson@rnet-tech.com
Telephone: 7047077674

Education:

- Master of Science, Computer Engineering, GPA: 3.78, Clemson University, Clemson, SC, May 2017. Advisor: Dr. M. Smith. Master Thesis: An Analysis of Variation Between Cores For Intel Xeon Phi Knights Corner And Xeon Phi Knights Landing
- Bachelors of Science, Computer Engineering, GPA: 3.97, Johnson C. Smith University, Charlotte, NC, May 2014

Honors:

Graduate with Summa Cum Laude, Full Academic Merit Scholarship for Johnson C. Smith University, President's List, First Place Poster at 2012 ERN Conference In Computer Sciences and Information Systems and Computer Engineering, Distinguished Partners Leadership Award 2012

Employment:

- **RNET Technologies** (August 2017 - Present)
  Research Scientist
- **Clemson University** (August 2014 - May 2017)
  Graduate Assistant
- **Lawrence Livermore National Lab** (April - July 2016)
  Student Intern

Research Projects:

2015 DOE SBIR: Ground Penetrating Radar System and Algorithms for Fine Root Analysis (Phase II, Principal Investigator, DE-SC0011322)
Co Researcher

- Worked on the acceleration of algorithms for a GPR-based system capable of penetration depth and root analysis.
- Integrate VisiT tool to visualize data obtained from the radar system.

An Analysis of Variation Between Cores For Intel Xeon Phi Knights Corner And Xeon Phi Knights Landing
Lead Researcher

- Identified application and hardware characteristics that influence core variation performance in Intel Xeon Phi KNC and KNL utilizing the Stampede Supercomputing cluster at Texas Advanced Computing Center (TACC)
- Utilized Core variation performance on KNC to get up to 16% lower energy consumption while maintaining within 2% application performance

Harnessing Hybrid Computing Resources in PetaScale Computing and Beyond, Dr. Melissa Smith
Co researcher, Clemson University, SC

- Acceleration of Spiking Neural Networks on Intel Xeon Phis and NVidia GPGPU
- Identified application characteristics that improved performance on Intel Xeon Phis, Intel Xeon E5 and NVidia GPGPU
- Utilized Performance modeling tools to accelerate applications on Intel Xeon Phi, Intel Xeon E5 and NVidia GPGPU

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A Multi-Node GPGPU Implementation of Cellular Automata to Simulate Wildfires
Co Researcher, Clemson University, SC

- Extended Wildfire prediction And modeling from single Cuda GPU to Multi-Node NVidia K40 GPGPUS On the Palmetto Supercomputing Cluster
- Obtained a speedup of 65 times using MPI+CUDA version compared to Single node CUDA Implementation
- Improved Execution of Cellular Automata Simulation by removing Memory Bottleneck on Simulating number of Wildfires

Exploration and Reduction of Power and Performance Variation among Xeon Phi cores, Dr Barry Rountree
Co Researcher, Lawrence Livermore National Lab, CA

- Identified Core Variation with Intel Xeon Phis First Generation Many Integrated Core Processor
- Identified Xeon Phi architectural features leading to Core Variation
- Analyzed the impact of Core Variation on the Performance of applications with lightweight kernels such as Nautilus

Tesseract For Power
Lead Researcher, Clemson University

- Identified and modelled power consumption of application on Intel Haswell, Nvidia GPU and AMD APU processors
- Mapping of Application to Architecture to predict optimal energy consumption based on Memory Access Behavior, Flops to non flops ratio and Algorithmic Complexity for each architecture.

Emergency Relief and detection Using Mobile and Robotics
Co Researcher, Johnson C. Smith University

- Designed a software architecture utilizing a combination Of Wi-Fi and GPS capability to send the geographical location of a person during an emergency.
- Created an android application which transmitted information to a database using User Datagram Protocol.
- Designed and implemented a Robotics System that was able to detect and aid relief after natural disasters.
- Designed a system to capture video from a wireless digital camera and remotely control NXT 2.0 robots.

Publications:

Robinson, Jamar, "An Analysis of Variation Between Cores For Intel Xeon Phi Knights Corner And Xeon Phi Knights Landing" (2017). All Theses. 2668.
http://tigerprints.clemson.edu/all_theses/2668