CISML 2015 SUMMER INTERNSHIPS/RESEARCH

SADIKA AMREEN – Ph.D. Candidate in Computer Science  
Sadika worked as an intern at ORNL with the Computational Data Analytics group during the summer. Her work was focused on implementing a prototype of a hybrid cloud model using OpenStack as the private cloud which will burst to Amazon Web Service (AWS) on demand as well as a study on how different algorithms perform on such infrastructures.

JARED BAXTER – Junior in Electrical Engineering  
Under the GRAMS program (Graduate Research Assistantship for Masters Students), Jared worked at ORNL in the Power Electronics and Electric Machinery Group (PEEMRG). His first project involved researching a new method to cool electric motors using the magnetocaloric effect. After working on the practicality and economic feasibility of this new method of cooling, he began to research a touchless transmission line inspection system that used inductor power harvesting to charge itself from the transmission line. He created and tested different prototype systems on an emulated transmission line and determined the most efficient configuration. The photo below shows Jared and Jessica Boles, a summer intern at ORNL, working on winding a test coil for the touchless transmission line inspection system. They worked for Tim Burress (electric machinery team leader in PEEMRG), and Burak Ozpineci (group leader of PEEMRG).
JOE DORRIS – Masters Student in Computer Science
Joe worked in Kansas City, Kansas as an intern during the summer at Garmin writing software for Marine products. He worked on their GPSMAP chartplotters. These touchscreen multi-functional devices are used for displaying position and heading as well as radar and sonar data.

JAMES FERGUSON – Masters Student in Computer Science
James was part of the GRAMS program (Graduate Research Assistantship for Masters Students) this summer working with Dr. Vincent Paquit at ORNL with the Imaging, Signals, & Machine Learning Group. He worked at the MDF (Manufacturing Demonstration Facility) using machine learning on images that are captured by 3D printers while an object was being printed to determine if an error occurred during the printing process. If an error did occur, they then determined when the error happened by analyzing the images. They also used machine learning on parameters that were recorded by the printer in order to try to determine what caused the errors and how they may minimize the errors in different types of printed objects.

KYLE LEINART – Senior in Computer Science
Kyle worked as part of GRAMS program (Graduate Research Assistantship for Masters Students) this summer in the Cyber and Information Security Research Group at ORNL with Dr. Eric Ragan using controlled experiments with popular online video games to determine what factors could enhance or inhibit short-term cognitive abilities. They used the video game title Garry’s Mod and are currently preparing the paper for publication.

DREW NASH – Masters Student in Computer Science
Drew worked on the Constellation Project at ORNL as a summer intern in an effort to analyze data products generated by the extreme-scale simulations run on the Titan supercomputer. The project is an initiative of the Technology Integration Group that involves loading snapshots containing metadata of a high performance file system into an optimized graph. Drew assisted the Computational Data Analytics Group in the implementation
of data analytics algorithms that utilize the graph to derive complex relationships between millions of data products, including files, users, groups, and jobs. He worked with Dr. Arvind Ramanathan, a CISML ORNL affiliate, on the Constellation Project. Drew also presented a poster (see photo) that highlighted his work at ORNL.

KEVIN NOLAN – Senior in Computer Science
Kevin worked with Cirruspath in Knoxville as an intern working in Data science/analytics regarding internal and product application.

CHRIS REARDON – Ph.D. Candidate in Computer Science
Chris interned as part of the College Qualified Leaders program, at the U.S. Army Research Lab in Adelphi, MD. He conducted research in human-robot teaming with ground and aerial robots and investigated the impact a human's decision making can have on a cooperative robot surveillance task.

Chris attended the 2015 IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN) in Kobe, Japan (August 31 – September 1, 2015) and presented collaborative, interdisciplinary research conducted at UT. He demonstrated (see photo below) how an intelligent, autonomous robot can be used to teach life skills to students with intellectual disabilities.
Sabrina Thurman, Rebecca Wiener and Dr. Daniela Corbetta attended the Annual Conference of the North American Society for Sport Psychology and Physical Activity (www.naspspa.com) held in Portland, Oregon on June 4-7, 2015.

Sabrina (see photo below) presented “Distance Travelled and Proximity Patterns in Mother-Infant Dyads during the Transition from Independent Infant Standing to Walking Onset”.

Rebecca presented “Where do infants look the most when preparing to reach: to the hand holding the target object or to the object target itself?” She also presented a poster (see photo below) entitled “Is the goal of reaching altering object-directed looking patterns in infants?”