C-Day Winners

Spring 2017

Category: Capstone

1st place: Railserve Personal Tracking - Colton Carder, Dock O'neal, Andrew Maddox, Chris Theroux

2nd place: AMOMS - Skip Bassey, Casey Brock, Jared Gibson, Ishraq Karim, Andy Mecke

3rd place: Asymmetric Multiplayer Game in VR - Jordan Davis, Mitchell Arnold, Ross Tebbetts, Zachary Towner, Zane Johnston

Category: Games

1st place: Parallel - Sterling LaVigne, Dereck Mills, Claire Oliphant

2nd place: Gojo Solo 2 - Josh Williams

3rd place: Uncanny Valley - Disney Nguyen

Category: Graduate Research

1st place: Monitoring and Assessing Traffic Safety Using Live Video Images - Srivarna Settisara Janney, Ishraq Karim

2nd place: Identifying Potential Bottlenecks on Interstate Highways - Betty Kretlow

3rd place: Input Validation and Output Decoding - Peter Ding

Category: Undergraduate Research and High School Internships

1st place: Malware Detection in Microsoft Office Macros with Machine Learning - Ruth Bearden

2nd place: eSense: Biomimetic Modeling - Derek Martin

3rd place: A Comparative Study of Gaming Interfaces and Impact on Players - Victor Sahin Ben, Junior Tamo, Sarah North
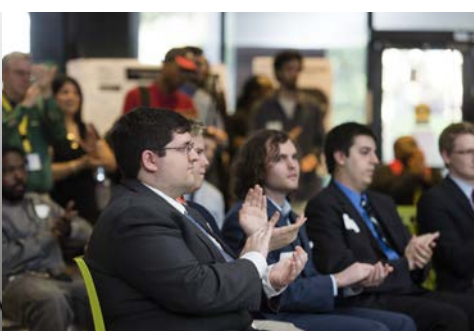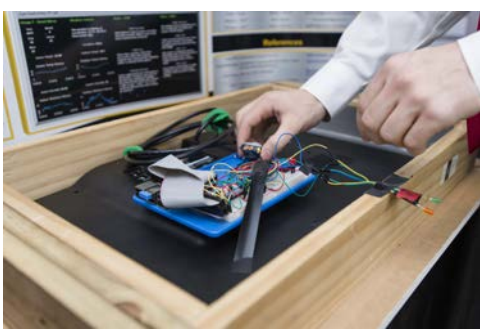
Spring 2017 C-Day Program

April 27, 2017

Location: Marietta Campus - 1st floor Lobby - Atrium building (J)

C-Day Home Page

Return to the C-Day home page.

Spring 2017 Winners

View the Fall 2019 C-Day winners.

Flash Session Presentation

Download the C-Day Flash Session Presentation.

4:00 pm - 4:30 pm	Student check-in time followed by set-up (presenters only) (1st floor lobby)
4:30 pm - 5:00 pm	Check-in judges, industry partners, Networking (1st floor lobby)
5:00 pm - 5:35 pm	Welcome from Dean Preston followed by Flash Session (1st floor lobby) CPCS-04, CPCS-05, CPCS-11, CPCS-13, CPCS-17, CPSWE-30, CP-33, GRCS-01, GRCS-05, GRCS-07, GRCS-09, GRCS-18, GRIT-25, GRSWE-29, OTHER-03, OTHER-08, OTHER-09, OTHER-10, UR-02, UR-03, UR-06
5:35 pm - 6:20 pm	Judging of Student Posters and Games Browsing (1st, 2nd and 3rd floors J building)
6:20 pm - 6:40 pm	Refreshments and Networking (J-381)
6:40 pm - 6:45 pm	Introduction of Keynote Speaker (Dean Preston) (1st floor lobby)
6:45 pm - 7:00 pm	Keynote Speaker Chad Teat, Chief Information Security Officer, Floor Decor (1st floor lobby)
7:00 pm - 7:10 pm	Recognition of Judges (1st floor lobby)
7:10 pm - 7:40 pm	Presentation of Awards (1st floor lobby): ○ Best Game ○ Best Capstone Project ○ Best Undergraduate Research Project ○ Best Graduate Research Project

Sponsor

Judges	—

1. Robert Perez - *IT Manager* - Southern Company
2. Nick Fenton - *IT Administrator* - Orasi Software, Inc.
3. William Olden - *Lead Programmer* - Kiz Studios
4. Eric Robinson - *Atlanta Studio Head* - Kiz Studios
5. Andrew Greenberg - *Executive Director* - Georgia Game Developers Association
6. Scott Murray - *Business Intelligence Architect* - HCA Healthcare
7. T.J. Thomas - *Software & Controls Manager* - Marietta Nondestructive Testing, LLC
8. Josh Gossett - *Software Engineer* - Marietta Nondestructive Testing, LLC
9. Russ Biggers - *Senior Software Engineer* - Honeywell
10. Bruce Skillin - *Technology Innovator* - Georgia-Pacific
11. Dan Young - *Operations Systems Manager* - Clyde Bergemann
12. Dylan Neumann - *Project Coordinator* - Fiserv
13. Mike Phillips - *Director, Talent Acquisition* - InComm
14. William Forsyth - *Masters Student, Computer Science* - Kennesaw State University
15. Steve Cavanaugh - *Director, Information Technology* - Printpack, Inc.
16. Shane Foster - *Applications Manager* - Shaw Industries Group Inc.
17. Trevor Sands - *Data Scientist* - Shaw Industries Group Inc.
18. Julie Newberry - *Lead Analyst* - Georgia-Pacific
19. Wei-Chuen Chen - *System Engineer* - Verizon Wireless
20. Wes Hogarth - *Research Technologist & IT Manager* - Georgia Tech Research Institute
21. Miguel F. Tirado - *System Analyst* - Georgia Pacific
22. Abi Salimi - *VP of National Programs* - Consort Institute
23. Charles Igwilo - *Partner* - upSTART VENTURE PARTNERS
24. Sharon Perry - President - Green Wave Technology

25. Chad Teat - Chief Information Security Officer - Floor Decor
26. Gordon Rogers - President - Edevate
27. Andrew Lackey - Owner - Wabi Sabi Sound
28. Lloyd Middlebrooks - Security Analyst Advisor - SecureWorks
29. Kendell Mendoza - Information System Security Officer - Georgia Tech Research Institute
30. Josh Faubel - Sr. Interactive Developer - YouAreHere
31. Jason Hillhouse - Sr. Game Developer - YouAreHere
32. Sean Hall - Embedded Systems Engineer - YouAreHere
33. Ricardo Olivo - Sr Director, Innovation Technology - YouAreHere
34. David Van Brackle - Senior Software Engineer - Lockheed Martin

Rubrics ▬

Capstone/ Undergraduate/Graduate Research scale 0 - 10 with 0 representing "Poor" and 10 representation "Exceeds Expectations"

- Successfully completed stated project goals and reported deliverables (0-10)
- Methodology/Approach: All required elements are clearly visible, organized, and articulated (0-10)
- Effective verbal presentation (0-10)

Games scale 0 - 10 with 0 representing "Poor" and 10 representation "Awesome"

- TECHNICAL: Technically sound with appropriate visual & audio fidelity(0-10)
- GAMEPLAY: Engaging & Fun, with an intuitive UI. Rules of play are clear. Includes a win/lose state(0-10)
- ORIGINALITY: Sound, Art, Design, or Code(0-10)

Capstone Projects (35) ▬

- **CPCS-01** EA-4X
  by Sven Cowart, Brendan Draper, James "Nick" Kammerdiener
  Major: BAACS Advisor: Dr. Yong Shi
  A Machine Learning based system to predict trends in the FOREX Market.

- **CPCS-02** ADbC
  by Chris Altamimi, Jeff Yu, Kelli Yeatman, Manaf Alhabbal, Tyler Wilson
  Major: BSCS Advisor: Dr. Yong Shi
  The focus of this project is to update the current ADbC interactive web application.

- **CPCS-03** Equipment Utilization Tracker (Dr. Shi Group 10)
  by James Gowdy, Clay Cain, Nathaniel Velliquette, Joel Kamdem Teto
  Major: BSCS Advisor: Dr. Yong Shi
  To develop a system to track equipment utilization and location. This project will implement the ability to track the hardware, it's duration of use and the distance it traveled. With this data it will be able to generate reports on the location and usage of the equipment. A google map will also be provided to provide a visual aid as to where the equipment traveled.

- **CPCS-04** KSU Lambda
  by Mark Shaver, Erica Pantoja, Gabriel Kigundu, Cameron Campbell, Abdoul Dolo, Shawn Hutcherson
  Major: BSCS Advisor: Dr. Selena He
  The focus of this project is to refine, update, and prepare to implement the current Lambda Machine distributed system for on-campus utilization

- **CPCS-05** FaceSNATCH
  by John Stanford, Kevin Vo, Heli Patel, Kayden Pham, Vimal Panchal
  Major: BSCS Advisor: Dr. Yong Shi
  FaceSNATCH is an IOS device friendly application that works with inbuilt database image collection to process broad range of images of humans and recognizes the emotions based on the expression.

- **CPCS-06** Pantry Buddy
  by Joshua Auer, Matthew Brown, Alphonza Harris, Katelyn Marsala, Martynas Sedys
  Major: BSCS Advisor: Dr. Selena HeMobile application that allows users to keep track of grocery shopping trends and then make predictions based on those trends

- **CPCS-07** Railserve, Inc. Maintenance Tracking
  by Daniel Brown, Christopher Choi, Andrew Hirschler, Gary Kirk, Ian Straiton, Oleg McNamara

  Major: BSCS Advisor: Dr. Selena He
  An online maintenance tracking system for Railserve, Inc. Comprised of a database and a website that consists of several different forms for data input.

- **CPCS-08** Smart Mirror
  by Raiden Stiegel, Sean Berdini, Gabriel Jefferson, Blesson Thomas, Kevin Nguyen

Major: BSCS Advisor: Dr. Selena He
Raspberry Pi controlled data aggregation interface to show time, weather, and news behind a mirror.

- **CPCS-09** Project Battleship
  by Eric Carboni, Jonathan Taylor, Steven Petsinger, Clayton Leikness, Payton Mock
  Major: BSCS Advisor: Dr. Selena He
  Creating the classic board game Battleship for the 21st century

- **CPCS-10** Asymmetric Multiplayer Game in VR
  by Jordan Davis, Mitchell Arnold, Ross Tebbetts, Zachary Towner, Zane Johnston
  Major: BSCS Advisor: Dr. Selena He
  A VR game with asymmetric gameplay that allows players to take on two different perspectives to either build a level and to try to thwart the other players' attempts to finish it or to play a level themselves.

- **CPCS-11** WhatsThe.Buzz (Dr. Shi, Group #4)
  by Abdul Wahab, Ryan McMichael, Melody An, Alexia Allway
  Major: BSCS Advisor: Dr. Yong Shi
  Web application that allows businesses in the service industry to collect feedback on how customers rate their businesses, and offer incentives (coupons) in return for their feedback.

- **CPCS-12** StoryPort
  by John McDonough, Logan Cooper, Zachary Reece
  Major: BSCS Advisor: Dr. Yong Shi
  We are developing an iOS and Android application that allows the user to take an image from their smart device, create a voice recording over the image, and then upload the created video to Facebook.

- **CPCS-13** Equipment Utilization Tracking - Ameritrack
  by Christian Brutofsky, Taylor Nicole Blasingame, Andrew Magana, Aleksandar Veselinovic, Austin Anderson
  Major: BSCS Advisor: Dr. Selena He
  design and implement an embedded system paired with an application to provide reports and real-time analytics for Railserve equipmment utilization

- **CPCS-14** HVAC Training Simulator
  by Preston Waters, Jamarcus Coulter, Euijin Lee, Paul Xiong
  Major: BSCS Advisor: Dr. Selena He

HVACTS will create a Virtual Reality game to train the player about how to identify HVAC fundamental problems and how to fix them.

- **CPCS-15** 4Paw: Donation and Adoption Platform
  by Tucker Fowler, Roger Mahler, David Huseman, Thomas Nguyen, Carlos Padilla, Andrew Unkefer
  Major: BSCS Advisor: Dr. Selena He
  Today's pet adoption system is becoming increasingly burdened with an overabundance of animals. The goal of this project is to build a hardware protype for feeder and create a server based website that will provide an easy one stop donation location for donators.

- **CPCS-16** Operation: Laces
  by Grant Wesley, Ash Dela-Cruz, Gilberto Rose, Ridge Brown, Zachary Munson, Marcus Joseph
  Major: BSCS Advisor: Dr. Selena He
  A mobile app to sell shoes/hats with Argumented Reality (AR) "put on" feature.

- **CPCS-17** Location Services using Wi-Fi Access Points
  by Andrew Dessin, Alex Googe, Brandon Cross, Brandon Parker, Jim McDoniel, David Rose
  Major: BSCS Advisor: Dr. Selena He
  The project will attempt to solve the problem of locating a Wi-Fi enabled device located inside a Macy's Retail Store within 1% of the total square footage of the store. The real-time, or near real-time information about device location within the store will be shown on a website.

- **CPCS-18** Magical Liopleurodon
  by Chris Koronkowski, Stephen Strickland
  Major: BSCS Advisor: Dr. Selena He
  The magical liopleurodon project is an attempt at an open-source library wrapping multiple other security-focused open source libraries into a single, easy to use library that may be used across various IoT devices.

- **CPCS-19** CodeCheck: IntelliJ/Android Studio Security Enhancement Plugin
  by Ben Ledford, Chris Francis-Christie
  Major: BSCS Advisor: Dr. Yong Shi
  Security-focused plugin that performs real-time code analysis for vulnerabilities as well as offering suggestions to correct the error(s)

- **CPCS-20** Personal Tracking Railserv Project
  by Vishal Patel, Blake Snellgrove, Jayson Swartz, Alonzo Bustamante, Rickey Weems
  Major: BSCS Advisor: Dr. Yong Shi
  We will have a developed Personal tracking device that will display location on the application via GPS coordinates

- **CPCS-22** Railserve Personal Tracking
  by Colton Carder, Dock O'neal, Andrew Maddox, Chris Theroux
  Major: BSCS Advisor: Dr. Yong Shi
  Creating a software backend do display the live location of works on a rail yard.

- **CPIT-23** GTRI Disaster Recovery Plan
  by Wagoner, Austin Taylor, Perez, Oscar Alejandro, Whitworth, Kyle Eugene, Osorio, Kevin
  Major: BSIT Advisor: Dr. Jack ZhengRedevelop the disaster recovery plan for GTRI ELSYS

- **CPIT-24** DocWeb Patient System
  by Cain, Stephen E, Cheveresan, Cristian, Kuah, Jun-Hao, McDonald, Victoria, Moche Chatue, Aline Stella
  Major: BSIT Advisor: Dr. Jack Zheng
  Renovate the user interface of a patient management system

- **CPIT-25** Anthem NoSQL Data Modeling and Query
  by Brown, Johnathan A, Amaka, Noble E, Stapleton, James Alford, Williams, Jason, Keen, Hasaan Akbar
  Major: BSIT Advisor: Dr. Jack Zheng
  Invetigate patient data profile modeling and query on NoSQL

- **CPIT-26** Anthem Hadoop Security
  by McTiernan, Justin David, O'Brien, Jared Vincent, Rai, Prakash, Smith, Logan Charles, Scott, Joshua Adam
  Major: BSIT Advisor: Dr. Jack Zheng
  Invetigate the authorization solutions on Hadoop

- **CPIT-27** WhatsThe.Buzz (Prof. Zheng, Group Buzz)
  by Sherri Booher, Neisha Martinez, Jonathan Jones, Patrick Green, Benjamin Skeen
  Major: BSIT Advisor: Dr. Jack Zheng
  Enhance the features for a restaurant customer survey app

- **CPSWE-28** Alternative Medicine Office Management System
  by Eric Plascencia, Calvin Nix , Alex Estrada, Ryan Josefsburg, Jerome Lester

Major: BSSWE Advisor: Dr. Hassan Pournaghshband
This is an office management system for an alternative medicine company. It's primary purpose is to provide assisstance to the employees of the client with management of all processes related to atients.

- **CPSWE-29** AMOMS
  by Skip Bassey, Casey Brock, Jared Gibson, Ishraq Karim, Andy Mecke
  Major: BSSWE Advisor: Dr. Hassan Pournaghshband
  AMOMS is a medical office management system for Centro Quiropractico Cassan that serves to help the company switch from paper records to digitized records and assist employees in any tasks related to patients.

- **CPSWE-30** 3MS - Modern Medical Management System
  by Michael Russell, Joshua Mennicke, Elizabeth Herndon, Bilal Adams, Kyle Sylvestre
  Major: BSSWE Advisor: Dr. Hassan Pournaghshband
  This project is to create software that will be used to replace the current system that is used for an alternate medical facility. The office currently uses paper records to keep track of patient information and they would like to move to a digital database to improve the productivity within the business. By switching to a database it will be much easier for patient records to be located and updated with new information. This system will also allow appointments to be efficiently managed by receptionists improving work flow.

- **CPSWE-31** Doctor's Office Management System
  by David Potter, Jonathan Cook, Adam Coker, Brandon Tuttle, Luis Rodriguez, William Story
  Major: BSSWE Advisor: Dr. Hassan Pournaghshband
  Fully functional doctors office system than can manage, organize and keep track of all the data that a typical doctors office would use and need. There will be many different users that will either make schedules, fullfil appointments, and/or generate reports on data in the system.

- **CPSWE-32** AMOMS
  by Kelechi Amaihe, Mamadou Bah, Anh Huynh, Juan Blanco, Alex Federico, Curtis Dirton
  Major: BSSWE Advisor: Dr. Hassan Pournaghshband
  A web based medical office management system. To replace an office's paper system with a digital one.

- **CP-33** Make A Miracle
  by Yasin Hussain, Dmitri Konradi, Angel Kanchev, Baturay Daylak, Tony Guzman

Major: ?? Advisor: Dr. Yong Shi
Web Application management system for Non profit organization Make A Miracle

- **CP-34** Knock Knock
  by Caitlin Price, Adam Knight, Carolina Sanabria, Daniel Young, Liel Van Der Hoeven, Ronen Yankivski
  Major: ?? Advisor: Dr. Selena He
  Our version of the "smart doorbell" - a user will be able to view/interact with visitors at their door without leaving the comfort of their house

- **CP-35** Skies Above
  by Adam Butler
  Major: ?? Advisor: ??

- **CP-36** Surveillance Image Enhancement
  by Connor Sample, Daniel Salge, Tevin Phillip, Andy Hudgins, Dylan Meadows
  Major: BSCS Advisor: Dr. Bob Harbort
  Feasibility study of image enhancement techniques for data from surveillance cameras

Games (16)

- **GM-01** Phobophobia
  by Andrew Romans, Robert Kowalchuk, Cody McCormick, Cody Ulrich
  Major: BSCGDD Advisor: Dr Allan Fowler
  Game

- **GM-02** Cat Burglary
  by Devante Anderson-Boothe, Tyler Henning, Jonathan Miu
  Major: BSCGDD Advisor: Dr Allan Fowler
  Game

- **GM-03** Uncanny Valley
  by Disney Nguyen

Major: BSCGDD Advisor: Dr Allan Fowler
Game

- **GM-04** Hasty Delivery
  by Drew Savas
  Major: BSCGDD Advisor: Dr Allan Fowler
  Game

- **GM-05** ShopKeep (working title)
  by Forrest McClain, Zach Colbert
  Major: BSCGDD Advisor: Dr Allan Fowler
  Game

- **GM-06** Infinite Tactics
  by John Ellis
  Major: BSCGDD Advisor: Dr Allan Fowler
  Game

- **GM-07** Pixel Puzzle Player
  by Julio Hernandez
  Major: BSCGDD Advisor: Dr Allan Fowler
  Game

- **GM-08** Interstellar Delivery Corp
  by Justin McLendon
  Major: BSCGDD Advisor: Dr Allan Fowler
  Game

- **GM-09** Call of Space Ring Tremorfieldfrontwatch: Advanced Global Ops Warfare 4
  by Kevin Friddle
  Major: BSCGDD Advisor: Dr Allan Fowler
  Game

- **GM-10** Enlivening Purge
  by Kevin Witt
  Major: BSCGDD Advisor: Dr Allan Fowler
  Game

- **GM-11** Worlds of Rescue
  by Lauren Sisk
  Major: BSCGDD Advisor: Dr Allan Fowler
  Game

- **GM-12** Eden Centauri Game
  by Michael Williams, Matthew Lamneck
  Major: BSCGDD Advisor: Dr Allan Fowler
  Game

- **GM-13** Project DSM
  by Skylar Romocki
  Major: BSCGDD Advisor: Dr Allan Fowler
  Game

- **GM-14** Parallel
  by Sterling LaVigne, Dereck Mills, Claire Oliphant
  Major: BSCGDD Advisor: Dr Allan Fowler
  Game

- **GM-15** Gojo Solo 2
  by Josh Williams
  Major: BSCGDD Advisor: Dr Allan Fowler
  Game

- **GM-16** Bacterius
  by Dave Smith, Moises Rosabal, Aarth Thakore
  Major: BSCGDD Advisor: Dr Allan Fowler
  Game

Graduate Research (32)

- **GRCS-01** Deep Convolutional Neural Network And Parallel Programming
  by Tala Emami, Ihssan Hashem
  Major: MSCS Advisor: Dr. Chih-Cheng Hung
  Develop deep neural networks that learn to detect abnormality from image feed, and use graphics processing units for fast learning.

- **GRCS-02** Improving Classification Performance for Malware Detection
  by Carlos Cepeda Mora, Pablo Ordonez, Chia-tien Dan Lo
  Major: MSCS Advisor: Dr. Dan Lo
  It was designed a model for features selection and Malware detection based on machine learning algorithms. Results shows state of the art detection accuracy rate with just nine features.

- **GRCS-03** Android App for Identifying Digital Signage Viewer
  by Dane Hylton
  Major: MSCS Advisor: Dr. Mingon Kang
  The objective is to count the number of people viewing some form of digital signage and predict their ethnicity/race and also their age.

- **GRCS-04** Driving Assistant Android App based on Computer Vision Techniques
  by Shade Alabsa
  Major: MSCS Advisor: Dr. Mingon Kang
  We will be implementing a driving assistant which implements lane and collision detection and provide feedback to the driver

- **GRCS-05** Car Tag Identification Android App
  by Sanjoosh Akkineni
  Major: MSCS Advisor: Dr. Mingon Kang
  We will be analyzing the picture of the car tag and get the tag number from the picture and compare with the database and generate the details of the owner.

- **GRCS-06** Picture Editing
  by Nidhibahen Patel

Major: MSCS Advisor: Dr. Mingon Kang
We will develop an android app that can enhance the quality of pictures

- **GRCS-07** Identifying Potential Bottlenecks on Interstate Highways
  by Betty Kretlow
  Major: MSCS Advisor: Dr. Chih-Cheng Hung
  develope classifying techniques on data from traffic camera image to identify potential bottlenecks

- **GRCS-08** A New Paradigm for Interference-Aware Energy Harvesting
  by Jiaxin Chen
  Major: MSCS Advisor: Dr. Xiaohua Xu
  Analysis of device to device communication and algorithm design

- **GRCS-09** Machine Learning for Understanding Amazon Product Success
  by Michael Kranzlein
  Major: MSCS Advisor: Dr. Dan Lo
  Apply big data and machine learning techniques to understand driving factors in a products success on
  Amazon.

- **GRCS-10** Auditory and Haptic Feedback 3D UI for Blind People
  by Darren O'Neale
  Major: MSCS Advisor: Dr. Rongkai Guo
  The properties of virtual reality can be applied across a plethora of industries. We are using HTC Vive to
  record relevant data as to how auditory and haptic feedback can be used to enhance navigation
  independence in the real world for people with visual impairments.

- **GRCS-11** Research on Detecting Malware using Encrypted Traffic
  by Uday Bhaskar Boyanapalli
  Major: MSCS Advisor: Dr. Donghyun Kim
  Detecting malware using encrypted SSL/TLS traffic - Collection of malware and evaluation of cryptographic
  standards in SSL. Analyzing malware with RC4 encryption and evaluation of algorithm with the data set.

- **GRCS-12** OpenFlow Flow Table Overflow Vulnerability and Defend Strategy
  by Xianyong Meng
  Major: MSCS Advisor: Dr. Yong Shi

- **GRCS-13** Sharing of lecture notes
  by Nidhi Patel
  Major: MSCS Advisor: Dr. Selena He

- **GRCS-14** Android App Development for Gender/Age estimation
  by Olivier Noumbi, Dhiraj Gharana
  Major: MSCS Advisor: Dr. Mingon Kang
  We are developing an Android App for gender/age estimation. It shows the android app development approach for the problems

- **GRCS-15** Identifying Cancer Subtypes
  by Tejaswini Mallavarapu
  Major: MSCS Advisor: Dr. Mingon Kang
  We are identifying cancer subtypes by using clustering methods

- **GRCS-16** Engineering an AI that can solve insight puzzles
  by Oscar Garcia
  Major: MSCS Advisor: Dr. Selena He
  As neural networks become more complex and designers build neural network arrays that mimic the human brain, it becomes possible to believe that neural networks can solve problems that require a more human level of insight. A Neural Network will be designed, prototyped and tested for its ability to, without prior training, synthesize an algorithm assembled from basic trained steps to solve the complex puzzle reaching an out of reach target.

- **GRCS-17** Performance Analysis: Machine Learning via CPU vs GPU
  by Jhu-Sin Luo
  Major: MSCS Advisor: Dr. Lo
  Using the MNIST handwritten digit database as our sample, we analyzed neural network training and validation times. We quantified the costs in terms of execution time and importantly, energy consumption.

- **GRCS-18** Monitoring and Assessing Traffic Safety Using Live Video Images
  by Srivarna Settisara Janney, Ishraq Karim
  Major: MSCS Advisor: Dr. Chih-Cheng Hung
  Highway Safety assessment has traditionally been relied on historical crash data and/or field conflict studies. The objective of this research study is to automatically extract conflict event data from the field cameras on

the fly. Those conflict events data can be used to proactively diagnose safety issues, and formulate and implement proper counter-measures in a timely manner. It is expected to considerably reduce the number of crashes that could have occurred otherwise. We need to train the machine to learning those conflicting situations to be useful in real-time monitoring of traffic.

- **GRCS-19** Unintended Data Leakage Attacks and their Countermeasures
  by Ravi Patel
  Major: MSCS Advisor: Dr. Kai Qian
  Expose different attacks to obtain information from a Android device and perform countermeasures to protect the data.

- **GRCS-20** Input Validation and Output Decoding
  by Peter Ding
  Major: MSCS Advisor: Dr. Kai Qian
  Demostrate the consequences of data sanitization in the forms of input validation and output encoding for secure mobile software development

- **GRCS-21** Auction Based Resource Allocation Algorithm in D2D Communications
  by Benjamin Lee
  Major: MSCS Advisor: Dr. Xiaohua XuI
  will show how an auction based resource allocation algorithm mitigates interference in a cellular communcations system and see where it stands with other methods of interference mitigation.

- **GRCS-22** New max fault-tolerance barrier-coverage problem in ad hoc sensor networks
  by Yeojin Kim
  Major: MSCS Advisor: Dr. Donghyun Kim
  Introduce a new maximum fault-tolerance barrier-coverage problem in hybrid sensor network, which consists of a number of both static ground sensors and fully -controllable mobile sensors.

- **GRCS-23** Graph-theory Based Simplification Techniques for Efficient Biological Network Analysis
  by Euiseong Ko
  Major: MSCS Advisor: Dr. Donghyun Kim
  Introduce two new graph algorithms which aim to improve the efficiency of the existing methods for biological network data interpretation.

- **GRCS-24** Android App Deveoplment for Funny Face
  by Sweta Patil

Major: MSCS Advisor: Dr. Mingon Kang
We will present the android app that identify face components and exaggerate them for fun

- **GRIT-25** An Iris Authenticaion Framework to Prevent Presentation Attacks
  by Mahbubul Islam
  Major: MSIT Advisor: Dr. Hossain Shahriar, Dr. Hisham Haddad
  Our approach relies on capturing iris area image using near infra read light. We train Haar-Cascade and LBP classifiers to capture the area between pupil and cornea. The image of iris are is stored into database. The approach also generates a QR code from iris which acts as a password and a user is required to provide it during authentication. A prototype is built using OpenCV platform tool. The approach has been tested from samples obtained from publicly available iris database. The initial results show that the proposed approach has lower false positive and false negative rates.

- **GRIT-26** Classification of Web Service Attacks and Mitigation Approaches
  by William Bond
  Major: MSIT Advisor: Dr. Hossain Shahriar
  In this proect, we provide a classification of attacks on web services and mitigation approaches.

- **GRSWE-27** Design and Deliver Online Courses
  by Jennifer Cassan
  Major: MSSWE Advisor: Dr. Paola SpoletiniThis research is intended to find the most efficient way to deliver online courses in computer and software fields

- **GRSWE-28** Virtual Reality for Requirements Elicitation
  by Aman Bhimani
  Major: MSSWE Advisor: Dr. Paola SpoletiniIn this project, we propose the use of virtual reality as new technique to collect requirements. Being an immersive controlled environment, virtual environments present all the benefits of both observations on the field and controlled experiments.

- **GRSWE-29** Empowering Requirements Elicitation through Vocal and Biofeedback Analysis
  by Albert Maine
  Major: MSSWE Advisor: Dr. Paola Spoletini
  Develop tool and software set for analyzing data obtained from biological feedback sensor and voice analysis to help the requirements elicitation process

- **GRCS-30** Proposing an algorithm for Automation of Secure and Transparent Permission Framework for Android Device
  by Nusrat Asrafi
  Major: MSCS Advisor: Dr. Dan Lo
  The Project is involved with developing new algorithms which self-regulating the permission of API framework in android application for malware detection and take necessary steps for security.

- **GRCS-31** Implementing A Sentiment-Change-Driven Event Discovery System on HPCC Systems®
  by Lili Zhang, Ying Xie
  Major: PhD in Analytics and Data Science Advisor: Dr. Ying Xie
  Implementing a sentiment-change driven event discovery system on HPCC Systems

- **GRCS-32** Mathematical Proofs on Interactive Learning Platforms
  by Linda Vu
  Major: MSCS Advisor: Dr. Ying Xie
  The goal of the project is to be able to use interactive learning mediums without the use of internet and to promote critical thinking.

Internships/Student Chapters (10)   —

- **OTHER-01** Voya Investment Management
  by Endia Holmes
  Major: BSIT Advisor: Prof. Dawn Tatum
  Descriptive internship poster requarding Windows 10 PC and VM's

- **OTHER-02** Kali Server Exploits
  by Andrew Chew
  Major: BSIT Advisor: Prof. Dawn Tatum
  Description of Kali distribution and tools used to exploit Windows XP and 10 Vms

- **OTHER-03** Clyde Bergemann Power Group - Engineering Design Automation
  by Priyanga Chandrasekar

Major: MSCS Advisor: Prof. Dawn Tatum
Descriptive Internship poster about Systems Analyst Intern experience

- **OTHER-04** Atlanta Police Foundation - Effectiveness of APF initiatives
  by Sreesowmya Chaturvedula
  Major: MSCS Advisor: Prof. Dawn Tatum
  Descriptive Internship poster about Data Analyst Intern experience

- **OTHER-05** United Parcel Service
  by Lamar Antonio Munoz
  Major: MSIT Advisor: Prof. Dawn Tatum
  Native Mobile Quality Assurance

- **OTHER-06** Optimization of SQL code for Regression analysis / Wellstar
  by Navera Gul
  Major: MSIT Advisor: Prof. Dawn Tatum
  Optimization of existing SQL reports to get useful data which can be used for the predictive analysis or
  diagnosis of chronic diseases in patients at Wellstar.

- **OTHER-07** CRM implementation at a Law office
  by Nimesh Patil
  Major: MSIT Advisor: Prof. Dawn Tatum
  Show the adoption and implementation of Salesforce in a law office

- **OTHER-08** IEEE Computer Society Student Chapter - Spring 2017 Activities
  by Victor Sahin, Justin Voorhees, Chip Gardner, Mizzani Walker-Holmes, Chris Baxter, Sanjoosh Akkinenim
  Major: BSCS Advisor: Dr. Sarah North
  Student Chapter Accomplishments

- **OTHER-09** Assoication for Computing Machinery Student Chapter - Spring 2017 Activities
  by Alex Veselinovic, William Parish, Chris Brutofdky, Taylor Blasingame, Alex Federico, Deja Tyla Jackson
  Major: BSCS Advisor: Dr. Sarah North
  Student Chapter Accomplishments

- **OTHER-10** Robotics and Automation Society (RAS) Student Chapter - Spring 2017 Activities
  by Erica Pantoja, Samuel Luo, Joel Kamdem, Christopher Francis-Christie, Victor Sahin, Ben Tamo
  Major: MSCS Advisor: Dr. Chih-Chung Hung
  Student Chapter Accomplishments

Undergraduate Research and HS (8)   —

- **UR-01** eSense: Biomimetic Modeling
  by Derek Martin
  Major: Advisor: Prof. Mike Franklin
  Biomimetic Modeling of Electrolocation and Echolocation using Dynamic Homeostatic Dual-Layered
  Reinforcement Learning

- **UR-02** A Comparative Study of Gaming Interfaces and Impact on Players
  by Dr. Sarah North, Victor Sahin, Ben Junior Tamo
  Major: BSCS Advisor: Dr. Sarah North
  The main objective of this study was to investigate how different gaming interfaces compare and impact the
  players' general experience with games.

- **UR-03** Automated Photography with Drones
  by Victor Sahin, Joel Kamdem Teto, Dr. Sarah North, Ben Junior Tamo
  Major: BSCS Advisor: Dr. Sarah North
  In this project, we examine Drones that can be used for automated indoors photography (AIP) with help of
  appropriate sets of sensors and artificial intelligence (AI) applications.

- **UR-04** Graphics powered Java Virtual Machine
  by Jonathan Lashgari (Wheeler High)
  Major: Other Advisor: Dr. Dan Lo
  Today's programs have not kept up with the pace of advancement in computer hardware. Graphics
  processing units, or GPUs, have long been available to use for general purpose computations, yet the
  utilization of such hardware is not wide spread. This project aims to enhance Java runtime performance by
  using the GPU and just-in-time compilation mechanism. This will ease the transition of creating more
  efficient and capable programs by transparently utilizing a computer's computational power.

- **UR-05** Improving spam mail detection using content filtering methods
  by Ethan Simms (Wheeler High)
  Major: Other Advisor: Dr. Dan Lo
  Current spam filters are not functioning at the most efficient/successful level. To improve the success of these filters, I will be conducting research on the different sub methods of the content filtering type of spam filtering. The research will open new doors for improving spam filters and increasing spam detection in the future.

- **UR-06** Malware Detection in Microsoft Office Macros with Machine Learning
  by Ruth Bearden
  Major: BSCS Advisor: Dr. Dan Lo
  I will present my progress in researching ways to improve malware detection for MS Office maros. My research will explore the effectiveness of only training machine learning algorithms from macro samples.

- **UR-07** CAT Vehicle Challenge
  by Jacob Jennings, William Silloway, Zane Johnston
  Major: BSCS Advisor: Dr. Donghyun Kim
  Use data from CAT vehicle to identify obstacles and change vehicles velocity and trajectory

- **UR-08** Augmented Reality Enhancements for Marching Band
  by Julian Robinson
  Major: Advisor: Prof. Mike Franklin
  Augmented Reality Enhancements for Marching Band with Visual Aids, Cueing, and Navigation

Wheeler High School Partners:

- Dr. Ginny Berkemeier - Internship Coordinator
- Dr. Kate Maloney - Research Coordinator