

RESEARCH INTERESTS:

Computing Education
Learning Technologies
User Experience
Human-Computer Interaction
Social Computing

CLEARANCE:

Secret

EDUCATION:

University of Florida (UF), Gainesville, FL

Ph.D. in Human-Centered Computing, May 2019 (expected); **GPA 4.00**

Clemson University, Clemson, SC

Ph.D. in Human-Centered Computing, August 2014 - May 2016 (Degree not awarded; Transferred to UF)

University of Maryland University College (UMUC), Adelphi, MD

M.S. in Information Assurance, May 2013

University of Maryland (UMCP), College Park, MD

B.S. in Computer Science, May 2010

RELEVANT SKILLS:

Languages/Frameworks	Java, JavaScript, JQuery, Ext JS, SQL, CSS, HTML, Flex, C, Ruby, J2EE, JSON
Applications	Windows, UNIX/Linux, Eclipse, Netbeans, Subversion, Apache Maven, SSH client, Microsoft Office, IBM ClearQuest, JIRA, Balsamiq Mockups, Axure RP, Justinmind Prototyper, IBM SPSS, Camtasia Studio, Android Studio, Unity game engine, InVision
General	PC diagnostics and repair

TECHNICAL EXPERIENCE:

Raytheon, El Segundo, CA (May 2017 – August 2017)

Software Engineer Intern

- Developed a graphical user interface tool that read in tabular data from a text file and displayed the data in an editable table format and saves the data back to the original format after user changes are entered.
 - Used **NetBeans IDE** and **Java Swing** to develop the tool
- Fixed reported bugs in the graphical user interface of a client’s mission critical tool implemented in **Java**

MIT Lincoln Laboratory, Lexington, MA

Summer Research Intern (June 2016 – August 2016)

- Designed and administered qualitative research methods (surveys & focus group) for a study on evaluating users’ decision making in a serious game where users are given an objective and choices of tools to help them achieve the objective in the game.
- Led and represented the summer interns in a video to promote both MIT Lincoln Lab and GEM Fellowship; and produced an original musical score for the video
 - <https://www.youtube.com/watch?v=9IZkV8Tx-Rg>

Summer Research Intern (June 2015 – August 2015)

- Researched and explored a unified standard approach to evaluate cyber visualization tools using surveys and biometrics (eye-tracking & chair sensor) using human factors and user experience techniques

Northrop Grumman (June 2010 – August 2014)

Software Engineer (September 2011 – August 2014 in Columbia, MD)

- Developed components for a tool on an agile team project using **Java** programming language and frameworks
 - Implemented on both the GUI and service side (front-end and back-end) via **JavaScript & Flex**
 - Met UI & Human Factors standards for front-end development
 - Implemented UI components with **Ext-JS (JavaScript) & RESTful** web services
- Tested **Java** development and web services by writing j-unit tests
- Collaborated on a team that includes developers, testers, DBA, architect, and scrum master
- Documented User Manuals, System Design, Technical Approaches, and source code

Systems Administrator/Help Desk (January 2011 – September 2011 in Fort Meade, MD)

- Supported a tool. Troubleshooted connectivity and usage issues. Monitored the project’s networking system.

RESEARCH EXPERIENCE:

Engaging Learning Lab, Department of Computer & Information Science & Engineering, University of Florida, Gainesville, FL

Graduate Assistant (Fall 2016 – Present) – Professor Christina Gardner-McCune

- Worked on the Kodu Project (<https://www.kodugamelab.com>) as a Student Researcher & Outreach Instructor.
 - Lead Instructor for teaching 4th & 5th graders at a local elementary school game design and how to code using Dr. David S. Touretzky's (Professor at Carnegie Mellon) curriculum (<https://www.cs.cmu.edu/~dst/Kodu/Curriculum>)
 - Designed surveys and assessments for our study to collect data about the participants' (elementary kids) understanding of coding concepts in the Kodu programming language
 - Created and embedded kinesthetic activities into my lesson plans where participants stepped away from the computer and used physical movement to help them understand coding concepts

MorphLab & Virtual Environments Group, School of Computing, Clemson University, Clemson, SC

Graduate Assistant (Fall 2014 – Spring 2016) – Professor Shaundra Daily & Professor Sabarish Babu

- Worked on the VENVI project (<http://venvi.org>) as a Student Researcher, Unity Developer, and Web Designer.

Institute for Physical Science and Technology, University of Maryland, College Park, MD

Undergraduate Research Assistant (Fall 2006 – Spring 2007) – Professor Michael A. Coplan

- Researched the discovery of surfaces that permit the least amount of sunlight reflectivity to protect spacecrafts and their instruments from deflecting radiation.
- Collected and analyzed data, performed measurements, utilized lab instruments, and created computer aided drafts.

PUBLICATIONS:

- **Isaac, J.**, Babu, S., Parmar, D., Daily, S., Leonard, A., Jörg, S., D'Souza, N., Gundersen, K. (2016). *"Supporting Computational Thinking through Gamification"*. IEEE 3DUI Symposium.
- Parmar, D., **Isaac, J.**, Babu, S., D'Souza, N., Leonard, A., Jörg, S., Gundersen, K., Daily, S. (2016) *"Programming Moves: Design and Evaluation of Applying Embodied Interaction in Virtual Environments to Enhance Computational Thinking in Middle School Students"*. IEEE Virtual Reality.
- Daily, S., Leonard, A., Jörg, S., Babu, S., D'Souza, N., Parmar, D., Gundersen, K., **Isaac, J.** (2016) *"Combating Perceptions of Computer Scientists: A Short-term Intervention"*. SIGCSE.

RELEVANT COURSEWORK:

CIS 6930: User Experience Design (Fall 2016) – Professor Lisa Anthony (UF)

- Introduced to the methods and tools used in User Experience (UX) and User Interface (UI) design
- Met user needs; Tools and methods used: personas, scenarios, storyboards, interviewing, focus groups, wireframing, prototyping, InVision, Axure, Balsamiq, etc.

CEN 5728: CS Education Research (Fall 2016) – Professor Christina Gardner-McCune (UF)

- Introduced to the field of Computer Science Education Research by learning major issues and findings from Computer Science Education Research and opportunities for future research in Undergraduate and K-12 education.
- Wrote a IEEE formatted research paper that proposed a CS & Hip-hop music app that featured both a design of the app and design of a research study

EDF 9050: Critical Look at Social Media, Games and Emerging Technologies (Spring 2016) – Professor Danielle Herro

- Comprehended and expanded my knowledge of social media, games and emerging technologies, and their implications for learning.

CPSC 6140: Human and Computer Interaction (Spring 2016) – Professor Sabarish Babu

- Surveyed human and computer interaction, its literature, history, and techniques. Covered cognitive and social models and limitations, hardware and software interface components, design methods, support for design, and evaluation methods.

IE 8000: Human Factors Engineering (Fall 2015) – Professor David Neyens

- Learned fundamentals of design for human use; human performance; applications of abilities and limitations to the design of tools, machines, facilities, tasks and environments for efficient, safe and comfortable human use.

CPSC 6110: Virtual Reality System (Fall 2015) – Professor Sabarish Babu

- Designed and implemented of software systems necessary to create virtual environments.
- Learned techniques for achieving real-time, dynamic display of photorealistic, synthetic images.
- Created a Virtual DJ Player using Microsoft Kinect sensors and the Unity game engine

CPSC 8810: Affective Computing (Spring 2015) – Professor Shaundra Daily

- Utilized weekly reading and writing assignments, presentations and discussion in order to explore topics such as cognition and perception, emotion in human-computer interaction, emotion and physiology, and technologies for autism research.
- Conducted research and developed a mobile app prototype to cultivate cultural empathy by exposing people to traditional food eating customs around the world

HCC 8810: Measurement and Evaluation of Human-Centered Computing Systems (Spring 2015) – Professor Sabarish Babu

- Applied statistical methods of HCC research including measures of central tendency and variability, standardized scores and the normal distribution, linear and multiple regression, correlation coefficients, one and two-sample hypothesis testing, and analysis of variance – ANOVA.
- Used **IBM SPSS** software to conduct statistical analysis.

HCC 8810: Research Methods in Human-Centered Computing (Fall 2014) – Professor Kelly Caine

- Introduced to the scientific method of answering questions, the evaluation of information from a scientific perspective, the design of experiments, how HCC research is conducted, and how HCC findings are communicated.

HCC 8310: Fundamentals of Human-Centered Computing (Fall 2014) – Professor Shaundra Daily

- Covered the fundamental concepts in human-centered computing including; human subjects, interface design, usability evaluation methods, software programming, information technology tools, ethics, policy, and current problems of interest to human-centered computing.

CMSC 434: Intro to Human-Computer Interaction (Spring 2010) – Professor Tom Yeh

- Science base (theories, models, and studies) and user interface design and development
- Assessed usability; Conducted task analyses, usability tests, expert reviews, interviews, surveys, and logging. Build low-fidelity paper mockups, and a high-fidelity prototype using contemporary tools such as **Adobe Flex**
- Team Semester Project: https://wiki.cs.umd.edu/cmssc434_s10/index.php?title=CS%40

TEACHING EXPERIENCE:

CEN4722/CEN5728: User Experience Design

Teaching Assistant (Fall 2017 – Present)

- Assisted with lecturing and grading for a group of 51 undergraduate and graduate students

CPSC 215: Software Development Foundations (<http://www.cs.clemson.edu/course/cpsc215/>)

Course Instructor (Spring 2016)

- Lesson planned, lectured, and graded quizzes, exams, and programming assignments for approximately 60 undergraduate students at Clemson University
- Course is an introduction to software engineering using the Java programming language

Teaching Assistant (Fall 2014 – Fall 2015)

- Lectured, assisted, and graded all four lab sections of students (approximately 20 students per section) as they worked on a different **Java** programming assignment each week of the semester at Clemson University.
- Helped grade larger **Java** programming assignments given by the course instructor

LEADERSHIP EXPERIENCE:

Black Graduate Student Organization (BGSO), University of Florida

Vice President (Fall 2017 – Present)

- Supported President with administrative duties & planning and led general body meetings

School of Computing Graduate Student Association, Clemson University

Social Chair (Fall 2015 – Spring 2016)

- Planned fun, engaging events and initiatives that encouraged camaraderie among the student body in Clemson's School of Computing

Black Graduate Student Association (BGS), Clemson University

Historian (Fall 2015 – Spring 2016)

- Captured photographs of events and made them accessible via social media outlets and photo hosting sites.
- Managed social networking accounts (Facebook, Twitter, and Instagram)
- Planned a Graduate Student Panel to expose underrepresented undergrads to graduate school

Social Chair (Spring 2015)

- Planned fun, engaging events and initiatives that encouraged camaraderie among group members

Active Member (Fall 2014 - Spring 2016)

- Helped with community service initiatives and graduate student recruitment; built camaraderie with peer graduate students

National Society of Black Engineers (NSBE), Clemson University

Graduate Student Coordinator (Fall 2015 – Spring 2016)

- Planned engaging events that connected and engaged underrepresented undergraduate students with underrepresented graduate students; built a pipeline

Active Member (Fall 2014 – Spring 2016)

- Assisted Pre-College Initiative (PCI) program with mentoring and preparing NSBE Jr. kids for their national math and science competition

Black Engineers Society (BES)/National Society of Black Engineers (NSBE), University of Maryland, College Park, MD

Alumni Member (Fall 2010 – Fall 2014)

- Conducted workshops, participated in student/professional panels, judged middle/high school Lego robotics competitions, and other NSBE mission related support for various conferences, University chapters, and summer camps

Treasurer (Fall 2009 – Spring 2010)

- Budgeted and funded programs, initiatives, and conferences that enriched our student body

Programs Chair (Fall 2008 – Spring 2009)

- Planned and implemented programs that enhanced the professionalism, leadership, and camaraderie of our members

Public Relations Chair (Fall 2007 – Spring 2008)

- Increased notability of our student organization to the general public by publicizing several events.

AWARDS & HONORS:

- Alpha Epsilon Lambda (AEL), National Honor Society - **UF Chapter Inductee** (Spring 2017)
- Ford Foundation Predoctoral Fellowship – **Honorable Mention** (2017)
- GEM Fellowship, National GEM Consortium – **Fellowship Recipient** (2016)
- Graduate School Fellowship Award, University of Florida – **Fellowship Recipient** (2016)
- Diversity Fellowship, Clemson University – **Fellowship Recipient** (Fall 2014 – Spring 2016)
- Upsilon Pi Epsilon (UPE), International Honor Society - **UMUC Chapter Inductee** (Spring 2013)
- NSBE Fulfilling the Legacy – **Scholarship Recipient** (Spring 2009)
- NSBE National Distinguished Chapter of the Year – **UMCP Chapter Executive Board Member** (Spring 2009)
- NSBE Chapter Executive Board Member of the Year – **UMCP Public Relations Chair** (Spring 2008)