Margie Ruffin

mruffin2@illinois.edu | (817) 925-6205 | github.com/mruffin | mruffin.github.io

EDUCATION

Doctoral of Philosophy - Computer Science — **University of Illinois at Urbana-Champaign**
- Advisors: Gang Wang & Kirill Levchenko

August 2020 – May 2025

Bachelor of Science - Computer Science — **Spelman College**
- Advisor: Raquel Hill

August 2016 – May 2020

PUBLICATIONS

Margie Ruffin, Jaye Nias, Kayla Taylor, Gabrielle Singleton, and Amber Sylvain. 2020. Character Development to Facilitate Retention in a Storytelling Robot. In 2020 ACM Southeast Conference (ACMSE 2020), April 2–4, 2020, Tampa, FL, USA. ACM, New York, NY, USA, 4 pages. https://doi.org/10.1145/3374135.3385315

Jaye Nias and **Margie Ruffin**. 2020. CultureBot: A Culturally Relevant Humanoid Robotic Dialogue Agent. In 2020 ACM Southeast Conference (ACMSE 2020), April 2–4, 2020, Tampa, FL, USA. ACM, New York, NY, USA, 4 pages. https://doi.org/10.1145/3374135.3385306

RESEARCH PROJECTS

ImageTool – University of Illinois at Urbana-Champaign, Champaign, IL
JUNE 2020 – PRESENT | *Advisors Gang Wang & Dr. Kirill Levchenko*
- Created a tool and framework to automatically determine if an image manipulation was for benign or malicious intent.
- Conducted a user study to understand user perceptions towards manipulated media.

Android Mobile Data Tracking – Spelman College, Atlanta, GA
SEPTEMBER 2019 – MAY 2020 | *Advisor Raquel Hill*
- Worked under a Spelman College professor to conduct research that tracks the type and amount of personal information that is being leaked from mobile applications to third-party websites.
- Assisted Professor with the writings of professional findings in a research presentation.

CultureBot – Spelman College, Atlanta, GA
SEPTEMBER 2018 – MAY 2020 | *Advisor. Jaye Nias*
- Worked to develop a robotics program that measured the effectiveness of Robotic code switching, the language switching between Standard English and African American Vernacular English.
- Created five different conversation paths that related anywhere from the topic of computer science to life at Spelman College as a student.

EXPERIENCE

Lawrence Livermore National Lab, Livermore, CA – *Graduate Student Researcher*
JUNE 2020 – AUGUST 2020

- Assisted with research related to defending the nation's power grid through Cyber Security.
- Focused on building a prototype network that managed several virtual machines that mimicked a neighborhood power grid. Used the tool minimega to build and launch a network topology of routers, switches, solar inverters, etc. to be used for industrial control system penetration testing purposes.

Georgia Tech Research Institute, Atlanta, GA – *Student Researcher*
OCTOBER 2019 – MAY 2020
- Works with GTRI Researchers on assigned projects; including one that creates a tool to exploit, study, assess known vulnerabilities in HTTP/2.
- Attends trainings, continuing educations, and shadowed employees to strengthen technical and personal skills.

Department of Defense – Department of Army, Washington, D.C. – *Summer Intern*
TS- Clearance
JUNE 2019 – PRESENT
- Worked alongside communications team to develop a Java based program to track thousands of telephone numbers, costing millions of dollars, allowing the discontinuation of inactive numbers and the savings of a substantial amount of money.
- Assisted the communications team in the upgrade of the Legacy Linux system to a new and more efficient system using bash scripting and company software.

Federal Bureau of Investigation, Houston/ Atlanta/ Dallas – *Student Workforce Trainee*
TS/SCI Clearance with Polygraph
JUNE 2017 – MAY 2019
- Aided the Cyber Squad in daily tasks, de-obfuscated malware, wrote scripts, prepared case briefs, and shadowed Bureau Computer Scientists.
- Worked to mitigate intelligence threats, on the Counter Intel team, by assessing threat level, threat identity, and by assigning proper mitigation level.

HONORS & AWARDS

Alfred P. Sloan Scholar	*2020 – 2025*
Grainger College of Engineering SURGE Fellow	*2020 – 2025*
UIUC Graduate College Fellowship	*2020 – 2025*
Spelman College Dean's List	*2017 – 2020*
Spelman College Research Day, 1st place	*2019*
Upsilon Pi Epsilon Honor Society Inductee	*2019*

SKILLS

Languages	Python, C++, Command Line, Java, HTML/CSS, SQL, JavaScript
Platforms	IntelliJ, MySQL, Firebase
Systems	Linux, OSX