

Margie Ruffin

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EDUCATION

Doctoral of Philosophy - Computer Science
● Advisors: Gang Wang & Kirill Levchenko

University of Illinois at Urbana-Champaign
August 2020 – Present

Bachelor of Science - Computer Science
● Advisor: Raquel Hill

Spelman College
August 2016 – May 2020

PUBLICATIONS

Nias, J., Hampton, L., Sampson, P. and **Ruffin, M.** 2020. To Appear. Decolonizing Technologies for Preserving Cultural and Societal Diversity. CHI 2020 Extended Abstracts, April 25 - 30, 2020, Honolulu, HI, USA.

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 2021

- 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.
- Employed the use of existing code, databases, extensive Industrial Control System PCAP data, and MatLab, to identify and classify faults in ICS transmissions.
- Worked to update existing processing code to make it more user-friendly and efficient.

Georgia Tech Research Institute, Atlanta, GA – Student Researcher

OCTOBER 2019 – MAY 2020

- Worked with GTRI Researchers on assigned projects; including one that creates a tool to exploit, study, assess known vulnerabilities in HTTP/2.
- Attended 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.

RESEARCH TALKS/ PRESENTATIONS

Analyzing Data Sharing Practices of Mobile Apps on Android – Poster Show. *Cyber Education, Research, and Training Symposium (CERTS)*, 2020.

Could it be Fake News: Combating Misinformation in the Media – Lightning Talk. *Illinois Sloan UCEM Showcase*, 2021.

HONORS & AWARDS

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| Alfred P. Sloan Scholar | 2020 – 2025 |
| Grainger College of Engineering SURGE Fellow | 2020 – 2025 |
| UIUC Graduate College Fellowship | 2020 – 2025 |
| Magna Cum Laude, Spelman College | 2020 |
| Phi Beta Kappa, Spelman College | 2020 |
| Spelman College Dean's List | 2017 – 2020 |

Spelman College Research Day, 1st place
Upsilon Pi Epsilon Honor Society Inductee

2019

2019

SKILLS

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