Mirela **Silva**

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Research Interests

Usable security, phishing, privacy issues affecting marginalized groups, misinformation, disinformation, and online advertising.

Education

University of Florida — *Gainesville, Florida*

Ph.D. in Electrical and Computer Engineering — *Exp: May 2022*

National Science Foundation Scholarship for Service (NSF SFS) recipient

- *Advisor*: Dr. Daniela Oliveira
- *Dissertation*: "Addressing Cyber Deception and Abuse from a Human Factors Perspective"

University of Florida — *Gainesville, Florida*

M.S. in Electrical and Computer Engineering — *May 2021*

Arizona State University — *Tempe, Arizona*

B.S.E. in Electrical Engineering — *May 2018*

Magna cum laude

Peer-Reviewed Publications/Talks

Published/Accepted

- **M. Silva**. *Thinking Slow: Exposing Influence as Hallmarks of Cyber Social Engineering and Human-targeted Deception*. *Accepted to* USENIX Enigma 2022.
- S. Gilda, L. Giovanini, **M. Silva**, D. Oliveira. *Predicting Different Types of Subtle Toxicity in Unhealthy Online Conversations*. *Accepted to* EUSPN's 2nd International Workshop on Artificial Intelligence for Natural Language Processing (IANLP'21).
- **M. Silva**, D. Oliveira. *Brazilian Favela Women: How Your Standard Solutions for Technology Abuse Might Actually Harm Them*. USENIX SOUPS's 5th Workshop on Inclusive Privacy and Security (WIPS 2020).

Under Review

- **M. Silva**, F. Ceschin, P. Shrestha, C. Brant, S. Gilda, J. Fernandes, C. S. Silva, A. Grégio, D. Oliveira, L. Giovanini. *People Still Care About Facts: Twitter Users Engage More with Factual Discourse than Misinformation—A Comparison Between COVID and General Narratives on Twitter*. (Accepted with Major Revisions.)
- H. Shi*, **M. Silva***, D. E. Capecci, L. Giovanini, L. Czech, J. Fernandes, D. Oliveira. *Lumen: A Machine Learning Framework to Expose Influence Cues in Text*. (Accepted with Major Revisions.)
- L. Giovanini*, F. Ceschin*, **M. Silva**, A. Chun, R. Kulkarni, S. Banda, M. Lysaght, H. Qiao, N. Sapountzis, R. Sun, B. Matthews, D. Oliver Wu, A. Grégio, D. Oliveira. *Online Binary Models are Promising for Distinguishing Temporally Consistent Computer Usage Profiles*. (Accepted with Major Revisions.)
- **M. Silva**, L. Giovanini, J. Fernandes, D. Oliveira, C. S. Silva. *Facebook Ad Engagement in the Russian Active Measures Campaign of 2016*.

In-Progress Projects & Manuscripts

- **M. Silva***, D. Capecci*, T. Christensen, G. Guitierrez, D. Oliveira. *The Decision-Making of Detecting Phishing: Insights from the Cognitive and Behavioral Sciences*.
- S. Gilda, L. Giovanini, **M. Silva**, D. Oliveira. *Abuse Detection and Gender Bias in Canadian News Media*.

- **M. Silva**, D. Guitierrez, M. Lysaght, S. Jain, S. Pandey, T. Christensen, D. Oliveira. *Behavioral Experimental Phishing Internet Task*.
- N. Sapountzis, **M. Silva**, D. Oliveira. *A Bobber for Phish: A Susceptibility-based Warning Model for Phishing Emails*.

Invited Talks

- **M. Silva**. *Addressing Cyber Deception*. MIT Lincoln Lab. 2021.

Products

- **M. Silva**, L. Giovanini, L. Czech, J. Fernandes, and D. Oliveira. *Potentiam: A Labeled Dataset of Influence Cues in Online Text*. 2021. Available at: `https://git.jl-k.com/danielaoliveira/Potentiam`

Service

2021 **Student Helper** USENIX SOUPS
2021 **Poster Jury Member** USENIX SOUPS
2021 **Program Committee** USENIX SOUPS WIPS

Honors & Awards

2021	IEEE S&P Student Registration Grant	*Virtual*
2021	USENIX Enigma's Diversity Grant	*Virtual*
2020	Accepted into CRA-WP Grad Cohort for Women	*New Orleans, LA*
2020	Accepted into CRA-WP Grad Cohort for URMD	*Austin, TX*
2020	Women in CyberSecurity (WiCyS) Conference Student Scholarship	*Aurora, CO*
2019	UF's Research Abroad for Doctoral Students (RAD) Grant for $4,305	*Gainesville, FL*
2019	ACSAC Travel Scholarship	*San Juan, PR*
2019	Black Hat Student Travel Scholarship	*Las Vegas, NV*
2019	IEEE S&P Travel Grant	*San Francisco, CA*
2019	Accepted into NSF Sponsored GREPSEC IV Workshop	*San Francisco, CA*
2018-2021	National Science Foundation Scholarship for Service (NSF SFS)	*Gainesville, FL*
2018	ASU's Palais Senior Design Prize Runner-up for Undergraduate Senior Capstone Project	*Tempe, AZ*

Experience

University of Florida *Gainesville, Florida*

Research Assistant *Aug 2018 - Present*

- Working on multiple concurrent phishing defense projects to identify fraud susceptibility profiles and improve surveillance for online and in-person fraud risk in aging.
- Leading a behavioral experimental, micro-longitudinal field approach study that will span over several weeks and will be placed in the ecologically-valid context of the participants' homes.
- Conducting interdisciplinary research into political and COVID-19 mis/disinformation, as well as gender bias in media.
- Organizing a large-scale international online survey (pending IRB approval) to generate a nationally-representative dataset of participants from Brazil and the U.S. in the context of intimate partner violence in the online sphere.

Raven Aerostar *Sioux Falls, South Dakota*

Navigation Research Intern *May 2018 - Jul 2018*

- Worked in a small team to research more reliable trajectories that balloons produced for customers (e.g., Google Loon) could take in order to remain in the stratosphere for longer periods of time.
- Experimented with machine learning algorithms in an attempt to decrease the error of weather data forecasts by training several models using Python libraries with data provided by the National Centers for Environmental Prediction.
- Trained intern on research and code accomplished during the summer so that project could be continued.

Arizona State University *Tempe, Arizona*

Capstone Project *Aug 2017 - May 2018*

- Nominated for the Palais Senior Design Prize of Spring 2018.
- Worked in a team of 4 to launch a UAV on a pre-programmed flight path to identify objects on the ground.
- Responsible for training machine learning algorithm for object identification of pictures captured in-flight.
- Helped build the UAV to specifications required by project.

University of Florida *Gainesville, Florida*

Undergraduate Research Assistant *Jun 2017 - Aug 2017*

- Created a chatbot using Python to generate rap lyrics based on training data from various rappers' lyrics.
- Performed natural language processing (NLP) to add more semantic meaning to the bot's output.
- Taught the bot how to find rhymes and slant rhymes by breaking words down into phonemes.

Mentoring

University of Florida *Gainesville, Florida*

Recruiting Volunteer *Oct 2018 - Present*

- Aid UF's ECE Graduate recruiting team during Junior Preview in October, Spring Visit in February, and SURF during the summer.
- Maintain contact with prospective students during the year to answer questions/concerns about attending graduate school at UF.
- Participate in the Graduate Student Panels to answer prospective students' questions about PhD.
- Act as a prospective student's guide during the visit by taking them to meetings with professor and lab tours.

America Reads *Tempe, Arizona*

Tutor *Aug 2017 - May 2018*

- Tutored 13 underprivileged middle school students, in math, reading, and writing.
- Won "Tutor of the Month" after first month.
- Independently created daily lesson plans and activities tailored to the needs of each student to stimulate learning and development in compliance with the Arizona State Academic Standards (Common Core).
- Aided in the behavioral management of the students by rewarding positive behavior.
- Occasionally created group activities for all students in the class that encompassed an area of study in accordance to a theme (e.g., science, life after high school).
- Met with students' guardians to update on their progress throughout the semester.

Engineering Futures *Tempe, Arizona*

Mentor *Sep 2017 - Mar 2018*

- Mentored 10 first generation undergraduate Electrical Engineering students.
- Helped mentees find a good balance between school and their personal lives by providing time management ideas based on each mentee's schedule and suggesting resources available at ASU.
- Provided guidance on research opportunities mentees might be interested in and helping mentees find such opportunities.
- Maintained regular contact with all mentees via email and text, and monthly one-on-on meetings.
- Met with Engineering Futures organizers to provide ideas on how to improve the program's outreach.

Skills

Languages **Native/C2** Portuguese | **Advanced/C1** Spanish

Programming Python, R, MATLAB, SPSS, Java, C++