

Luis Vargas

<http://luisvargas.me>

Education

University of Florida, Gainesville, FL

Doctor of Philosophy, Computer Science

Emphasis: Cybersecurity

Advisor: Patrick Traynor

Projected 2021

Florida International University, Miami, FL

Bachelor of Science, cum laude, Computer Engineering

Fall 2015

Research Experience

Graduate Research Assistant

June 2016 – Present

University of Florida

- Researched the SMS usage of many online services based on 900,000 messages sent to public gateways. We uncovered phone verification fraud, poor entropy generation of one-time codes and sensitive information being sent over an unsecure medium
- Designed an innovative way to assure data confidentiality for a predictable time after a document has been compromised
- Designed a system that uses strong cryptographic authentication to assure the identity of a caller before answering the phone
- Performed a comprehensive measurement study of a real hospital network in order to detect and classify potentially compromised devices by using passive DNS and SSL/TLS data.

Supervised Research

August 2014 – December 2015

Florida International University

- Created a wearable watch that included a custom made printed circuit board with the capabilities to gather information from a three-electrode gas sensor, calibrate to the sensor connected, and connect to a custom made Android application for mobile devices via Bluetooth
- Investigated security and privacy implication of the “Do Not Track” HTTP header field for web browsers

Flight Controls R&D Intern

August 2014 – Dec 2014, June 2015 – August 2015

NASA Ames Research Center

- Researched possible function allocations in aircraft separation assurance to support future growth for air traffic controllers
- Created MATLAB automated scripts to compare and streamline the metric analysis process of multiple simulations with various parameters
- Created JavaScripts to dynamically view simulation data gathered in order to find bottleneck points and macro patterns in the airspace traffic
- Gave multiple technical presentation to a room full of researchers to convey ideas and progress

Industry Experience

Management Assistant and IT Support Technician

June 2013 – August 2016

PAL Supports & Services Corp

- Quoted and purchased aircraft parts as part of the procurement process
- Managed a secure wireless network and made software/hardware upgrades to the computers in the office
- Performed troubleshoot and solved technical problems ranging from printer issues to back up of data and installment of new operating systems

Manufacturing Engineering Systems Intern

May 2014 – August 2014

Ford Motor Company

- Processed and refined Big Data from the Connected Vehicle Analytic Challenge using High Performance Computing and SQL scripting
- Trained Natural Language Processing models to support more accurate business output from Securities and Exchange Commission files
- Installed a distributive computing network that allowed faster processing of manufacturing Big Data that improved processing to 60% of the original time

Awards and Honors

- NSF Travel Grant 2017
- Best Poster award: “AuthentiCall: Efficient Identity and Content Authentication for Phone Calls” received the Distinguished Poster Award at NDSS 2017
- Board of Education Summer Fellowship 2016
- Gartner Award 2016
- Graduate School Fellowship Award 2016

Publications

- [1] Bradley Reaves, **Luis Vargas**, Nolen Scaife, Dave Tian, Logan Blue, Patrick Traynor, and Kevin R.B. Butler. Characterizing the Security of the SMS Ecosystem with Public Gateways. *ACM Transactions on Privacy and Security*, 2018.
- [2] Logan Blue, Hadi Abdullah, **Luis Vargas**, and Patrick Traynor. 2MA: Verifying Voice Commands via Two Microphone Authentication. In *Proceedings of the 13th ACM Symposium on Information, Computer and Communications Security*, ASIACCS '18, 2018.
- [3] Logan Blue, **Luis Vargas**, and Patrick Traynor. Hello, Is It Me You're Looking For? Differentiating Between Human and Electronic Speakers for Voice Interface Security. In *Proceedings of the 11th ACM Conference on Security and Privacy in Wireless and Mobile Networks*, 2018.
- [4] **Luis Vargas**, Gyan Hazarika, Rachel Culpepper, Kevin R.B. Bulter, Thomas Shrimpton, Doug Szajda, and Patrick Traynor. Mitigating Risk while Complying with Data Retention Laws. In *Proceedings of the 2018 ACM SIGSAC Conference on Computer and Communications Security*, CCS '18, 2018.
- [5] Bradley Reaves, Logan Blue, Hadi Abdullah, **Luis Vargas**, Patrick Traynor, and Tom Shrimpton. AuthentiCall: Efficient Identity and Content Authentication for Phone Calls. In *Proceedings of the 26th USENIX Security Symposium*, 2017.
- [6] Alexander Pons, Andrew De La Rosa, Silvia Vidaurre, **Luis Vargas**, and Eugene Pons. Security and Privacy Implications of 'Do Not Track'. *International Journal of Information Privacy, Security and Integrity*, 3(2):117–133, 2017.

Relevant Skills

- Operating Systems: Android, OS X, Ubuntu, Windows
- Tools: \LaTeX , Git, MongoDB, Spark
- Relevant Graduate Courses: Introduction to Data Science, Computer Networks, Computer Networks Security, Introduction to Cryptography, Computer Information Security, Mobile Security, Engineering Entrepreneurship
- Programming Languages
 - Proficient: Python, Java
 - Familiar: MATLAB, C, JavaScript, SQL

Service and Extracurricular Activities

- Reviewer: ACM Conference on Security and Privacy in Wireless and Mobile Networks 2017
- Reviewer: ACM Conference on Computer and Communications Security 2017
- Reviewer: USENIX Security Symposium 2017

Professional Societies

- Society of Hispanic Professional Engineers
- Tau Beta Pi Engineering Honor Society