

# Luis Puche

*PhD Student*

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*US Citizen*

## Education

- 2018–Present **PhD. in Electrical and Computer Engineering**, *Florida International University*, Miami, FL.
- 2016–2017 **MS. in Cybersecurity**, *Florida International University*, Miami, FL, *3.3 GPA*.
- 2011–2016 **BS. in Computer Science**, *Florida International University*, Miami, FL, *3.9 GPA*.

## Experience

- 2017 **Software Development Intern**, *Amadeus*, Miami, FL.  
Development intern in a Windows .NET environment. Tasked with providing development knowledge and recommendations in security practices.
- Aided in .NET development of Amadeus Hospitality Applications.
  - Provided recommendations on design for authentication and authorization APIs.
  - Implemented asymmetric RSA examples of Microsoft native and JOSE JSON Web Tokens.
  - Documented and developed modules in .NET, Angular, C# and legacy JavaScript Applications
  - Created console software to visually compare hash output of various methods and implemented 'slow hashing' algorithms as proof of concept.
- 2016–2017 **Graduate Research Assistant**, *Florida International University*, Miami, FL.  
Graduate role in assisting Dr. Debra Davis in graduate research. Focus in applications development for Android devices.
- Developed and maintained a research centered Android mobile application.
  - Created a question standard so that questions could be created or altered with text files and loaded at runtime.
  - Aided professor in doctoral research tasks regarding Facebook and privacy.
  - Created an applications using various API implementations.
    - Facebook API, for social analysis to a participant.
    - Affectiva API, a facial recognition platform which detects mood through video and still images.
    - GSON, a JSON encoder and decoder.

2015–2016 **Software Programming Lab Assistant**, *Florida International University*, Miami, FL.

Student role in facilitating an active learning environments. Worked beside the professor to aid in tasks and laboratory management.

- Provided students information in an active environment to complete Java programming tasks.
- Assisted professor in teaching through an active hands-on environment with over one hundred students.
- Responsible for a computer lab setting involving over thirty students. Providing assistance and knowledge on how to complete laboratory assignments.
- Graded and provided feedback to laboratory assignments for students.

2007–2016 **Smart Home Lead Programmer / Installation Supervisor**, *MAC*, Miami, FL.

Lead programmer for Control4 and Crestron Systems as well as supervisor for a group of installers.

- Assisted Clients in their Smart Home system needs. Instructed end-user how to operate and maintain automation systems after installation.
- Managed installation tasks and employees to complete jobs within marked deadlines.
- Configured and completed over 35 Control4 and Crestron systems in South Florida, Caribbean islands, and Mexico.
- Created multitudes of A/V Drivers for device integration with Control4.
- Experienced with troubleshooting known brands such as Klipsch, Lutron, Somfy, Sony, Samsung and many others.

2005–2014 **Security System Technician**, *MAC*, Orlando, Florida.

CCTV Technician and Installer.

- Coordinated with clients to meet their needs and requirements.
- Installed and configured Analog and Digital CCTV Digital video recorders, enabling remote access for cameras and security devices.
- Analyzed and performed manual installation of security cameras over extensive job sites. Involved pulling wires, fine tuning, and low voltage terminations.
- Coordinated with authorities to fetch and convert recordings to viewable formats.

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## Languages

English **Full Professional Proficiency**

Spanish **Native or Bilingual Proficiency**

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## Computer skills

Programming Languages	Java, C#, C, C++, Ruby, Python, LaTeX, LUA. Typescript, Javascript	Applications	Visual Studio, Visual Studio Code, Netbeans, Eclipse EE, Android Studio, Photoshop
Components	ASP.NET, Jersey, MVC, Tomcat	Web	Amazon Web Services, REST, JSON, XML
Open Source	Linux	Interfaces	RS-232, Infrared, Universal Serial Bus
Smart Home	Crestron Systembuilder, Control4 Composer, C4 Driverworks, RTI, Lutron RadioRA	Other	IDAPro, CSS, JavaFX GUI

## Notable Achievements

- Recipient of Scholarship for Service
  - Participated in FIU Research sponsored by the NSF Scholarship for Service
  - Awarded the scholarship from 2018 to pursue PhD research in IOT Security. With a focus on commercial and residential IOT Smart Devices.
- Winner of 2015 FIU-IBM Bluemix Cloud Hackathon : Smart Home
  - Programmed a Control4 LUA driver and web interface to integrate with Bluemix's image recognition and control physical devices with images alone.
  - Declared one of two winning projects in the competition.

## Research Experience

- Smart Grid Security: Worked with Longfei Wei under professor supervision to submit a paper covering Cyber-Physical attacks and defense mechanism for Smart Grid infrastructures. It was an attempt to cover common attacks and mitigation techniques for these attacks.
- Assembly Code Analysis: With the concept that often, malware is written natively in assembly language. We created a small semester-long project in Malware Reverse Engineering to gauge compiler and user inclinations towards different types of jump statements. We created software which could note the deviations from a control group and identify hand-written assembly through distribution of jump statements in disassembled x86 code.

## Additional Coursework

- 2008 - Control4 Tech I Programming Certification.
- 2009 - Control4 Tech II Programming Certification.
- 2010 - Control4 Sales Training.
- 2010 - CEDIA Principles in IP Networking.
- 2010 - CEDIA Designing Ethernet Networks.
- 2010 - CEDIA Home Theater Design Lab.
- 2010 - Crestron CTI Essentials of Crestron programming.
- 2010 - Crestron CTI Prodigy Crestron Programming.
- 2010 - Crestron CTI Configuration of Crestron Systems.
- 2011 - New Horizons Network+.
- 2011 - New Horizons Cisco CCNA.
- 2011 - Lutron RadioRA Certification.
- 2013 - Control4 Panelized Lighting Certification.
- 2016 - CodeAcademy Ruby Coursework
- 2016 - JavaBrains Jax-RS Coursework.
- 2017 - Udemy Angular Coursework.