MICHAEL MELI

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EDUCATION:

North Carolina State University, *Raleigh, NC*
- M.S. in Computer Science   May 2018

North Carolina State University, *Raleigh, NC*
- B.S. in Computer Engineering, B.S. in Electrical Engineering   May 2016
- 4.0 GPA (Summa Cum Laude, Valedictorian)

PROFESSIONAL EXPERIENCE:

Software Engineering Intern, *Cisco Systems, Raleigh, NC*   May 2016 – August 2016
- Led an effort to convert the security offerings of a team in Cisco's Security Organization from using proprietary public key certificates to using standardized X.509 certificates, significantly reducing team workload.
- Enhanced the Cisco code-signing API to include support for parsing and verifying X.509 certificate chains in C.
- Produced Python and bash scripts to integrate this support into the existing build and release process.

Software/Hardware Engineering Intern, *Cisco Systems, Raleigh, NC*   May 2015 – August 2015
- Worked on a cross-functional hardware and software engineering team in Cisco's Security Organization developing a new bootloader encryption process for both internal and external hardware products.
- Developed software in C and Python to integrate with digital hardware designed in Verilog.
- Fully closed a major security vulnerability of the team's IP offerings in the event of a specific attack.

Software Development Intern, *Mi-Corporation, Durham, NC*   May 2014 – August 2014
- Collaborated directly with customers to develop custom enterprise mobile data capture solutions.
- Developed new and improved features for Mi-Corporation's industry leading "software as a service" products.
- Worked with Windows, Android, and iOS devices, writing code in C#, JavaScript, VB.NET, and ASP.NET.

PROJECT EXPERIENCE:

iBeacon Indoor Localization, *Master's Thesis, NC State University*   June 2016 – Present
- Helped lead an Internet of Things (IoT) project focused on indoor localization via Bluetooth iBeacons.
- Developed Node.js code running on Raspberry Pi nodes to report sightings of iBeacons to an MQTT broker, from which a multi-threaded Python client retrieves and stores the data into a MariaDB SQL database.
- Established REST API endpoints and designed a website for accessing data using a Flask web server in Python.
- Provides a low-cost yet highly scalable solution for creating interactive exhibits and targeted advertising displays in stores, museums, and other businesses.

knowURshower, *Make-A-Thon Project, NC State University*   February 2016
- Won the Grand Prize in the NC State Sustainability Make-A-Thon for prototyping a FitBit-like device that could be used by students in campus dorms to lower their water usage by up to 40%.
- Interfaced an Arduino microcontroller with a digital valve to measure and control flow rate, while providing visual feedback of this information on an LED display in the shower.
- Released an Android application to receive water usage information from the Arduino via Bluetooth and create reports, allowing users in the dorms to compare and compete with each other to save the most water.

romspam, *Personal Project*   February 2016
- Devised a Python project that retrieves romantic quotes and sends them to a target over social media.
- Integrated with the Twitter REST API with user authentication via OAuth tokens to allow users to post tweets.
- Ensured security by encrypting sensitive information and API keys using AES-256 encryption.
- Developed a unit testing suite using the nose and mock Python libraries.

SKILLS:

Computer: C, Python, Java, SQL, JavaScript, jQuery, Node.js, HTML5, CSS3, C#, Verilog, VB.NET, C++, Assembly, MATLAB
Platforms: Linux, Windows, MacOS, Android, Arduino, MSP430, Cortex ARM, Xilinx, Altera, Intel x86