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 Electrical Engineering and Computer Engineering (Double Major) — 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, allowing for greater accessibility for customers.
- 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 Scanner Project, *Master's Thesis, NC State University* — June 2016 – Present

- Collaborated with another graduate student to lead an Internet of Things (IoT) project focused on indoor localization via Bluetooth Low-Energy iBeacons under Dr. Michael Devetsikiotis and funded by IBM.
- Developed Node.js code running on Raspberry Pi nodes to report sightings of iBeacons to an MQTT broker, from which a Python client retrieves and stores the data into a MariaDB SQL database.
- Provides a low-cost solution for creating interactive exhibits and targeted advertising displays in stores, museums, and other businesses.

Biometric Hydration Shirt, *Senior Design Project, NC State University* — August 2015 – May 2016

- Engineered a biometric shirt for the casual athlete that monitors the wearer's hydration level.
- Developed embedded software in C++ that utilized I2C communications to interface thermometers and an AD5933 impedance measuring chip to a Bluetooth-enabled RFduino microcontroller.
- Created an Android application that received and displayed biometric information via Bluetooth, performing digital signal processing and applying an experimental hydration algorithm in the process.
- Aimed to produce the prototype for the first hydration-measuring biometric shirt to ever reach market.

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 product that could be used by students in campus dorms to lower their water usage by up to 40%.
- Architected a solution that interfaced an Arduino microcontroller to a device installed on the shower spigot that measured and controlled water flow rate. The Arduino provided visual feedback of water usage to users via an LED display in the shower. An Android application received water usage information via Bluetooth and displayed it in the app, plus allowed for users in the dorm to compare and compete to save the most water.

SKILLS:

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