

**José D. Rodriguez**  
12639 Coit Road Dallas, TX 75251  
(787) 464-1466 [josedanielrodriguez@hotmail.com](mailto:josedanielrodriguez@hotmail.com)

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## Description

- Software Engineer professional with 5 years of experience looking for a software development position.

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## Education

- **University of Puerto Rico – Mayagüez Campus** 2012- 2018
  - Bachelor of Science in Computer Engineering
  - Earned department's medal

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## Previous Work Experience

**Texas Instruments:** Systems and Test Engineer Full time February 2018-November 2023

- Developed Large Network Test automation infrastructure using Python. Infrastructure used to have devices of a wireless protocol join a network and exchange ping requests with each other. This infrastructure allowed us to run the software in a scenario similar to an end user's experience.
- TI OpenThread Certification Efforts. Operated test setups with Thread Groups's Certification software infrastructure to run internal certification tests for TI's OpenThread implementation. Worked on debugging issues found in TI's software by using a packet sniffer to observe the network traffic and find the faulty packet.
- Systems Testing Over the Air Downloads. Tested Linux software that provided Over the Air Download functionality to a wireless protocol. Found significant bugs such as a segmentation fault and rigid design choices that only allowed a single device to perform a download under a specific order of operations.
- Adding DHCPv6 support to TI-OpenThread examples. Added code to OpenThread libraries to enable support for DHCPv6 address assignment from DNSmasq on Linux machines. Added code to example applications to add communications between specific devices based on DHCPv6 addresses assigned to each device. Libraries and example applications consisted of embedded C and a small amount of C++.

**Texas Instruments:** Porting MSP432 BLE Plugin Examples Summer 2017

- Modified existing MSP432P401R Bluetooth code example to work on MSP432P4111 as well.

**Texas Instruments:** Evaluating Compression on MSP430 Firmware Summer 2016

- Developed programs using Python to run evaluations on lz4 compression algorithm and Huffman coding.

**MIT Lincoln Laboratory:** Speech Recognition Application Summer 2015

- Updated existing MIT Lincoln Laboratory's Speech Recognition Android Application to use newer version of their speech recognition library.

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## Projects Developed

**Web Plug Android Mobile Application** January, 2018

- Developed a mobile application using Native Android as the user interface. Application was able to schedule when to switch or set the power state of the web plug outlet hardware.
- Interfaced with a server implemented using Python Flask in order to remotely control a smart outlet.

**Beer Route Mobile Web Application** December, 2016

- Developed a mobile web application using HTML and AngularJS as the front end of the application.
- Used a PostgreSQL database as the back-end (view) of the application. The database had over 10 tables.

- Used NodeJS as the controller of the application. The NodeJS would receive HTTP requests from the AngularJS front-end and execute SQL queries to update the database.

#### **Gem Store web page**

April, 2015

- Developed a web page using HTML and AngularJS as the front end of the page. The page's GUI contains buttons, tabs, and input fields that allowed users to add comments and ratings for each gem.
- The web page used a Java Play server as a back-end. The back-end consisted of a sorted linked-list container class that stored Gem objects and the server was hosted locally.
- The AngularJS code used http functions and RESTful API to communicate with the Java Play back-end. The front-end uses the http post, get, delete, and put functions.

#### **Backgammon with Web-Based capability**

November, 2014

- Uses sockets in order to allow two players to play Backgammon versus each other.
- Game board consists of a Graphical User Interface developed using classes such as JFrame, JButton, and Image Icons.
- Allows up to ten players to connect to a single server at the same time through the use of a two-dimensional array of sockets.
- Uses a class with static methods and a class that implements the ActionListener interface in order to manage the game's logic, rules, and movements of the checkers.
- The Strings sent to the sockets depend on the moves made by the players. The Strings are then sent to the socket corresponding to the other player's program. The String is modified if needed.

### **Technical Skills**

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- Java
- Python
- AngularJS
- Fully Bilingual (Spanish, English).
- XML and JSON
- Basic Knowledge in Database Systems using PostgreSQL
- Basic knowledge in Jenkins
- Basic knowledge in C
- Basic knowledge in Wireshark
- Basic knowledge in REST API
- OpenThread
- Confluence and Jira
- Git
- Microsoft Office
- Basic knowledge using simple HTML tags and REST API

### **Soft Skills**

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- Collaboration with different software teams to ensure high quality products.
- Providing guidance to newer team members via instructional videos and regular communication.
- Critical thinking applied to figuring out root cause of issues found in software.