

Education

- **Electronics Engineering** **2009 - 2014**
Mexico
Instituto Tecnológico de Estudios Superiores de Occidente (ITESO).

Summary

Software engineer with experience in embedded systems and software development, committed to develop good quality software and accustomed to good practices and processes of software engineering.

I consider myself a disciplined professional with a high motivation for learning about new technologies.

Professional Experience

- Intel - Network Platforms Group (NPG)** **2015 – 2017**
Mexico
Software and System Validation Engineer

The team was focused on the enabling and validation of a hardware accelerator module, used for compression, encryption and cipher operations, which is part of high-performance server products/processors. As part of the team my main focus was helping on the creation of device drivers and software in C/C++ and Python that could enable an OS to use and validate this specialized hardware accelerator module.

My main role was as a C/C++ SW developer responsible of supporting the existing software projects and applications used for validation besides developing new SW modules to enable features and new validation use cases.

- Freescale - Audio and Accessories Software Development Group** **2014 - 2015**
Mexico
Embedded Software Engineer

The team was focused on developing software for audio applications and also on enabling the creation of general smartphone consumer accessories. During this period, I worked on the following projects:

- Homekit over Bluetooth Low Energy (BLE) software stack for Freescale's microcontrollers. I was part of a team developing a software stack that could enable the creation of home-automation accessories intended to be controlled by Apple devices using BLE as a transport.
- Freescale Connected Audio Solution Project which intended to provide a software stack to create consumer audio accessories. In this project I was responsible for integrating and supporting a software stack that enabled the communication with Apple devices.

- Freescale - Audio and Accessories Software Development Group** **2013 - 2014**
Mexico
Internship

The main project was to develop a software stack that could interface Freescale's microcontrollers with any iPod, iPad or iPhone over USB using MFi (Made For iPod) protocol to enable the creation of audio or general-purpose accessories. A solution that interfaced these devices and supported the creation of bare-metal and RTOS applications was successfully implemented.

Knowledge & Skills

- **Programming languages:**
 - Decent knowledge and professional experience in C, C++ and Python.
 - Fundamental knowledge in, Java, JavaScript, HTML5, MATLAB, SQL, and Assembly.
- Software Design, Development and Debugging.
- Object Oriented Programming Fundamentals.
- Linux fundamentals, Makefiles and recipe creations, Bash and scripting basics.
- Embedded Systems and Microcontrollers.
- Real-Time Operating Systems (RTOS) Fundamentals.
- Digital Design and Hardware Description Languages (HDLs) Fundamentals
 - Verilog and SystemVerilog
- Full-stack Web Development Fundamentals (MEAN Stack).
- **Software Development Tools:**
 - Git as a revision and version control system.
 - Docker for applications development and deployment
 - Jira, Crucible, Phabricator and other tools for bug tracking and code review.
 - IDEs (Eclipse, MS Visual Studio...) and command line tools for code development (vim)
 - Debugging tools like gdb and documentation generator tools like Doxygen and pydoc.

Languages

- Spanish (Native).
- English (Fluent).

Academic & Personal Projects

- www.pepedocs.com: Blog style webpage for my personal notes, front-end implemented using HTML5 and jQuery and back-end implemented with Node.js **2018**
- **Automatic Vehicle Location System (AVL)** **2014**
Based on an 8-bit microcontroller and a GPS module.

Awards & Certifications

- Participant in the Worldwide Freescale Cup Autonomous Intelligent Car Race **2014**
South Korea
- Second Place Winner of the Freescale Cup Autonomous Intelligent Car Race **2013**
Jal, Mexico
- LinuxFoundationX FS101x.2: [Introduction to Linux](#) **2015** - edX
- Microsoft DEV210.3x: [Advanced C++](#) **2018** - edX
- HarvardX CS50: [CS50's Introduction to Computer Science](#)
- UTAustinX UT.12.01x: [Real-Time Bluetooth Networks - Shape the World](#)
- UTAustinX UT.6.20x: Embedded Systems - Shape the World: [Microcontroller Input/Output](#) & [Multi-Threaded Interfacing](#)