# Alejandro Castellanos De La Torre

14+ years of writing code for embedded systems, proficient in C, bash, and Python. Written embedded applications for metering.

# Microcontrollers

* ST STM32 32-bit ARM Cortex M0, M0+ y M3.
* Freescale Kinetis K Series 32-bit ARM Cortex M4.
* Freescale 68HC12 16-bit.
* Freescale 68HC08 8-bit.
* NXP LPC1100 Series: 32-bit ARM Cortex M0.
* TI MSP430 16-bit.
* TI TIVA 32-bit ARM Cortex M4F.
* ATMEL tinyAVR 8-bit.
* Raspberry Pi.
* Windows PC.
* Linux PC.
* Android Devices.

# Languages.

* C/C++.
* Bash.
* Python.
* Java.
* MySQL.
* Php.
* R.
* TCL.
* Basic.
* Markdown.
* Wikitext.
* Org.
* elisp

# Development Tools.

* Rowley Crossstudio for ARM.
* Kinetis Desing Studio.
* IAR Embedded Workbench.
* Code Composer Studio.
* LPCXpresso IDE.
* CodeWarrior Software Development Tools.
* Atmel Studio.
* Keil MDK Microcontroller Development Kit.
* Eclipse IDE.
* Wiced Studio.
* IntelliJ IDEA.
* Android Studio.
* Emacs.
* Sublime Text.

# Integrations and Stack Implementations

* LoraWan, ST-LPWAN.
* Ethernet TCP/IPV4, RTCS-MQX.
* WiFi, bcm43340 based modules.
* RFID.
* USB, ST-USB-Library.
* PLC Narrow Band, fsk ST7580 and ofdm MAX2990.
* Graphics, TI-Grlib.
* DLMS.
* Drivers for a lot of SoC.
* HAL's for UART/USART, SPI, GPIOS, etc.
* A lot of propietary firmware like serial comunications protocols, AES encriptation, chipher, file systems, etc..

# Others

* written bare-metal device drivers and application code for microcontrollers.
* written interrupt-driven device drivers for microcontroller peripherals and be familiar power management concepts as they relate to firmware.
* written either USB device or host code.-
* able to read a schematic.
* led a firmware development effort. Specifically, the -candidate must be comfortable translating requirements into tasks, creating a development plan, and leveraging a team to execute that plan.
* experience testing firmware.
* factory test experience.
* a basic understanding of symmetric and asymmetric cryptography.
* a strong understanding of cryptographic primitives such as AES.
* written or ported cryptographic code.
* written a secure bootloader.