# 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

## Programming Languages

C/C++, Bash, Python, Java, MySQL, Php, R, TCL, Basic, Markdown, Wikitext, Org, elis

## 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.