

Miguel Cuan

✉ mihcuan@gmail.com | ☎ (313) 213-2955 | 📍 Torrance, CA

🌐 linkedin.com/in/mcuan | 🐙 github.com/mcuan

Education

Tecnologico de Monterrey

BS in Mechatronics Engineering

Monterrey, Mexico

Aug 2011 – Jun 2017

Experience

Canoo

ADAS Embedded Software Engineer

Torrance, CA

Sep 2021 – Present

- Developed embedded software for ADAS domain control module, supporting different layers of the stack (middleware, application)
- Implemented software to support communication of applications distributed across a vehicle network.
- Supported Systems Engineering requirement elicitation and review for SAE Level 2 features.

Ford Motor Company

Connected Vehicle Embedded Software Engineer

Dearborn, MI

Sep 2018 – Sep 2021

- Developed C/C++ multi-threaded applications for different embedded platforms and operating systems (QNX, Embedded Linux, Android), supporting all stages of product development lifecycle including design, implementation, testing, validation and software integration
- Created multiple prototypes and proof-of-concepts to test new technologies for the next generation of connected vehicles.
- Coordinated software deliveries with internal and third-party suppliers on an autonomous vehicle project.

Visteon Corporation

Graphical User Interface Software Engineer

Queretaro, Mexico

Mar 2018 – Sep 2018

- Developed embedded software for digital display Instrument Panel Clusters.
- Performed architecture design (UML), software development (C/C++), static and dynamic testing for MISRA/AUTOSAR compliance, source control (Git, IBM RTC), and change & configuration management (Jira)
- Created GUI applications for ARM Cortex-A target running QNX RTOS using a graphics engine to manage assets, layout, and rendering.

Aptiv

Embedded Software Engineer

Queretaro, Mexico

Jul 2017 – Mar 2018

- Developed embedded software for Infotainment systems using Qt framework (C++/QML) for multiple size/resolution touchscreen displays.
- Implemented GUI features (e.g. Radio AM/FM/SXM, Phone [AndroidAuto, CarPlay] Navigation, Settings, Web Browser)
- Performed root cause analysis to debug and fix software defects (5 Why's, FTA, DFMEA)

Schneider Electric

Mechatronics Intern

Monterrey, Mexico

Aug 2014 – Dec 2016

- Performed R&D for low voltage electrical protection devices having worldwide interaction with different design centers and universities.
- Worked with CAD software to design mechanical parts, perform structural simulations, and prototype miniature circuit breakers parts.
- Designed electronic circuits, PCBs, and developed embedded software for a residential energy monitoring system.

Skills

Programming Languages: C/C++, Python, Java, Rust

Software: Linux, QNX, Android, Git, Qt, OpenCV, ROS, MQTT, ZMQ, DDS, Protobuf

Hardware: x86, ARM, RISC V, Raspberry Pi, Arduino, ESP32, NVIDIA Jetson

Other: CAN, Ethernet, SPI, I2C, WiFi, BLE, UWB, LoRa, RF

Projects

Autonomous Navigation of Land Vehicles

- Implemented algorithms in C++ to process LiDAR point cloud data and identify traversable space, obstacles and routes, performing real time data processing and wireless data transmission.

Residential Energy Management System

- Designed and prototyped electromechanical systems and implemented embedded software for IoT energy metering system, leading to company award and patent.

Achievements

Silver Prize at FD Innovation Contest, Impacting strongly traditional products

Schneider Electric Dec 2016

Patent US 9618548, Integrated Systems for Miniature Circuit Breaker Load Centers

Schneider Electric Apr 2017