

# JOSE CARLOS GALLEGOS MARISCAL

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I am a Software Engineer with experience in embedded systems, wireless communications, server-side services, operative systems, and computer hardware interfaces. I've worked with multiple chip vendors using a variety of architectures, from which ARM-Cortex M has been the main focus. I've helped get consumer products from design to launch, while mainly being involved in the software side of things I've also helped with hardware design and troubleshooting.

## EXPERIENCE

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### Software Engineer, Ubilogix

2014 – Present

- Multiple projects developing for ARM-based MCUs.
- Work with communications protocols such as ZigBee, BLE, ANT+, Matter, TCP/IP, HTTP, MQTT, and LwM2M.
- Experience with hardware and firmware debugging techniques.
- Experience with wireless communications stacks from different vendors.
- IoT product to cloud API design experience.
- Experience with OS building tools like Yocto and LFS.
- Work with cloud services such as AWS, Digital Ocean, and multiple private services.
- Team leader and client interaction.

### Adjunct Professor, Autonomous University of Baja California

2017 – Present

- Teach Programming Paradigms subject.
- Teach Digital Technologies for Innovation subject.
- Teach Web Application Development subject in the master's program.
- Part of the Bachelor of Informatics, Bachelor of Business Intelligence, and Bachelor of Software Engineering academias.

## PROJECTS

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### Multiplayer wearable toy

- Design a proprietary personal area network protocol to work concurrently with BLE to communicate up to 16 devices.
- Development firmware for an ARM Cortex-M and BLE radio MCU.
- Worked with a major entertainment conglomerate engineering team and helped with product design.

### Consumer portable device

- Helped with the hardware and software from design to market of a consumer product.
- Implemented multiple kernel drivers and main application.
- Design and implementation of a BLE service to communicate with a mobile app.
- Use Yocto to create a custom Linux image for the product.

### In-house protocol analyzer team lead

- Manage the team in charge of Ubiqua Protocol Analyzer.
- Implemented the service that manages the hardware interfaces.
- Implemented an agile software development methodology to track progress and software quality.
- **Multitude of other in-house and consulting projects at Ubilogix**

## EDUCATION

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### Autonomous University of Baja California, Master of Engineering

2012 – 2015

- Focus on wireless communication and electronic instrumentation.
- The project consisted of a web service, GSM communications, and an IEEE802.15.4 network.
- The target was to monitor environmental variables for crop management.

### Autonomous University of Baja California, Bachelor's in Computer Engineering

2007 – 2011

- Scholar merit of the XXVI generation of computer engineering.
- Honorable mention-well.
- EGEL with high distinction.

## SKILLS

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- **Languages:** C, C++, Golang, Python, JS, Rust, SQL.
- **Embedded:** Experience with SDKs from STMicro, Nordic, TI, NXP, Espressif, SiLabs. Experience with Yocto, LFS, FreeRTOS, Zephyr.
- **Technical Skills:** Coding, debugging, data modeling, version control systems, CI/CD, Cross-compiling, GNU dev tools.
- **Wireless communications:** ZigBee, BLE, ANT+, Matter, TCP/IP, HTTP, MQTT, and LwM2M.
- **Hardware peripherals:** USB, UART, I2C, SPI, CAN, SWD, JTAG.
- **Web and mobile:** Django, Flask, Vue, Flutter.
- **Skills:** Self-driven, collaborative, critical thinking, detail-oriented, team leadership and management.