

EXPERIENCE

• Twitter

Software Engineer

Boston, MA

Dec 2019 - Present

- **Ads Serving Platform:** As part the [Ads Serving Platform](#) team, I worked in the re-architecture of the AdServer pipeline, transitioning to a rule-based system for selecting ads. I also participated in the implementation of a [Sharding Library](#) to simplify the management of sharded microservices in the pipeline and collaborated with the research team in the introduction of new products by providing the infrastructure support such as experimentation, data fetching and processing.

• GE Aviation

Senior Software Engineer

Queretaro, Mexico

Apr 2019 - Nov 2019

- **Digital Cloud Solutions:** Software Engineer part of a group working in the connected aircraft, leveraging Azure cloud and web technologies to transmit flight data to and from ground. I also participated in the porting of existing software base from PPC to ARM architecture Other activities included: code reviews, mentoring, planning.
- * **Connected Aircraft / NEXTNet-avSync:** Developed microservices to get flight information from airplanes, process it and send it to the cloud (part Avionica's [NEXTNet-avSync](#)).

Embedded Software Engineer

May 2014 - Apr 2019

- **Avionics & Digital Systems:** Technical leader for Mexico's team of an IR&D project that focuses on next-generation flight decks, improving the graphical capabilities of display apps and exploring new ways of human-machine interaction.
- * **Virtual OpenGL:** Participated in the design and implementation of a custom graphics API based on OpenGL ES with the objective to modernize current flight deck graphics stack, improving not only the performance but also the time from design to implementation. Designed and developed tools to integrate high-level design software (like Inkscape and VisualStudio) with our graphics stack. Developed the cross platform build system for the graphics API, with support for Windows and Linux, as well as custom embedded Linux images that included our custom graphics back-end, ZMQ, example applications of our HMIs and remote debugging.
- * **Digital moving map:** Led the development of a digital moving map, designed and build an API for remote drawing, interaction and control, part of the [Open Flight Deck](#) project.
- * **RPC System:** Designed and implemented a simple RPC system for sending avionics information on top of [ZMQ](#), written in C and with client and server APIs for C, Python, C#, as well as a code generator for transforming JSON formatted data model definition files to ZMQ C API.
- * **Landing Gear System Monitor:** Led the design and development of a landing gear system monitor application, test methodology and integration support at the client's facilities.
- * **Other:** Conducted global training sessions for users of our Avionics stack, participated in the organization of two successful hackathons directed towards both students and professionals wanting to experience GE's engineering challenges.

EDUCATION



• Benemerita Universidad Autonoma de Puebla

Master of Science in Electronics
Bachelor of Engineering in Mechatronics

Puebla, Mexico

Aug. 2011 - Jun. 2013
Aug. 2005 - May. 2010

PROJECTS

- **Autonomous Mobile Robot:**  [mobile_robot](#) — Mobile robot platform for academic research (Patent [MX/I/2018/100659](#)).
- **dsPIC Peripheral Libraries:**  [dspic33f_pic24h_corelibs](#) — Peripheral libraries with support for UART, SPI, I2C, I/O, QEI, Timers, ADC for the PIC24/dsPIC33F family of microcontrollers.

PROGRAMMING SKILLS

- **Languages:** C, Python, Java, C++, Typescript
- **Technologies/Frameworks:** OpenGL, Azure, Git, Angular, Yocto, Spring, Finagle