

EXPERIENCE

• **Brown Brothers Harriman**

Senior Software Engineer

Boston, MA

Apr 2023 - Present

- **Data Platform:** As part of the **InfoDataFabric** team, I'm the technical lead for the 3 main services powering client facing applications, driving both product goals like the prioritization and implementation of new features, release planning and on-call support as well as providing guidance in aspects like code quality, documentation, testing and automation. Some examples include:
 - * Designed and implemented error handling strategy used team wide, from format definition to implementation and refactor.
 - * Reduced the latency when communicating with the datalake service by 30% by optimizing queries, caching responses and decoupling the datalake from the rest of the services using a message queue.
- * **Tech stack:** Java, Spring, SQL, Angular, Python

• **Twitter**

Senior Software Engineer
Software Engineer

Boston, MA

Sept 2022 - Jan 2023
Dec 2019 - Aug 2022

- **Ads Serving Platform:** As part of the **Ads Serving Platform** team, I've worked in the re-architecture of the AdServer platform, completing the transition to a microservices based architecture and continue its improvement in areas like configuration, experimentation and scalability.
 - * **AdServer:** Led the design and implementation of a rule-based configuration system to enable a dynamic ad search and selection pipeline.
 - * **ShardLib:** Contributed to the implementation of a **Sharding Library**, used to simplify the management of sharded microservices in the serving pipeline.
 - * **Other:** Regular oncall support for some of the main services used in the ad serving pipeline. Collaboration with partner teams in the introduction of new ad products.
 - * **Tech stack:** Java, Scala, Python, Finatra/Finagle, Thrift

• **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 process flight data.
 - * **Connected Aircraft / NEXTNet-avSync:** Developed microservices to extract flight data, process it and send it to the cloud (part Avionics's **NEXTNet-avSync**).
 - * **Other:** Collaboration with hardware team to develop APIs to communicate with the backend system. Documentation maintenance. Mentor to junior engineers.
 - * **Tech stack:** Java, Python, Spring, Azure

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:** Contributed to the design and implementation of a custom graphics API based on OpenGL ES. Developed tools to integrate high-level design software with our graphics stack as well as the cross-platform build system for the graphics API
 - * **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.
 - * **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.
 - * **Tech stack:** C, Python, OpenGL, Yocto

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

OTHER 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.