



EDUCATION

Advanced Technologies School - National Polytechnic Institute of Mexico (UPIITA - IPN)

February 2018 - July 2023

Bachelor of Science in Mechatronics Engineering

GPA: 9.45/10

- Courses on computer architecture, software engineering, robotics, electronics, mechanical design, computer vision, real time operating systems, machine learning, control theory, automation

WORK EXPERIENCE

Microsoft

June 2023 - September 2023

Software Engineer Intern

Redmond, Washington

- Designed and implemented a POC for a new feature coming up in Microsoft Teams Premium
- Managed stream data coming from the user's Video Based Screen Sharing in a Teams meeting to process it
- Implemented OCR and NLP services of Azure to process streaming data
- Developed 26 end-to-end test cases for 2 API endpoints of the Microsoft Graph API to catch regressions early

Aerospace Development Center (CDA - IPN)

October 2021 - April 2022

Frontend Developer

Mexico city, remote

- Designed and developed new screens for the CDA web app using Django, to improve project management for researchers, students and administrative workers
- Designed and documented API REST endpoints with Swagger, for frontend and backend guidance in development
- Automated frontend development setup using Docker, increasing time and tasks efficiency for the team

MAJOR PROJECTS

Raman Spectrometer Prototype (Thesis)

January 2023 - July 2023

- Designed and implemented an optics module to excite a sample, collect its dispersion and filter it
- Designed and implemented a sensing module to separate the wavelengths of the optic signal and register them
- Designed and implemented a processing module to filter the signal and compute the Raman spectrum
- Designed and implemented an energy module to supply power to all the electronics in the system
- Designed and implemented a control module to manage the process
- Designed and implemented a HMI module to interact with the user (a Windows app with a USB interface for the device)

Lecture notes

March 2019 - July 2023

- Published +270 notes of engineering courses taught at UPIITA IPN in Mexico City
- Implemented a note-taking workflow from the command line, to use during lectures
- Designed and developed the website using Jekyll
- Implemented a dynamically highlighted TOC and a highlighting client search using Lunr.js

Low-cost pyrometer

November 2019 - December 2019

- Used a low-cost color sensor to measure light emitted by a heated body along with the corresponding temperature to generate a radiation-temperature profile and use it in a device that remotely measures temperature
- Developed a command line tool written in Java to get data sent through a serial port and record it in an excel file, the tool was used to get the radiation-temperature profile

LEADERSHIP & ACTIVITIES

CETIEM SC volunteering associate

April 2020 - January 2021

- Blogging, event staff, hackaton planning and execution

SKILLS

Programming languages	Technologies	Languages
<ul style="list-style-type: none">2 years Matlab1 year Javascript, Python6 months Java, C, C++, C#	HTML, CSS, Sass, Jekyll, Vim, LaTeX, Linux, Mathematica, React, React Native, Docker, SQL, SQLite, Django, Bash, .NET	<ul style="list-style-type: none">B2 EnglishC1 FrenchNative Spanish