

Adriana Nancy Orellana Torrico

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Profile

I am very excited about how technology is improving and the opportunities it is creating. Through programming and research, I want to contribute by solving problems and automating tasks to enhance people's lives.

Education

Bachelor's Degree in Computer Systems Engineering

February, 2017 - July, 2021

Universidad Privada Boliviana (UPB)

Cochabamba, Bolivia

CGPA 94.23/100

Professional Experience

Research Assistant

June, 2021 - Present

Optics and Energy Research Center (CIOE), Universidad Privada Boliviana

Center for Research in New Information Technologies (CINTI), Universidad Privada Boliviana

- Redesigned and implemented new features in SpectraUPB, a spectrometry mobile app, using Flutter. Included exposure, focus, and calibration of a low-cost spectrometer with a mercury or neon lamp.
- Developed an open source Booking System in Angular for remote labs, used by members of the EUBBC Digital project of the Erasmus+ program to control access and improve lab usage.
- Developed a Spectrometry Remote Lab with Angular and WebSockets to receive data from the SpectraUPB app and remotely interact with its features as well as lights (neon lamp, warm led, cold led, RGB led, and a laser) via ESP32.
- Implemented Raspberry Pi software to process spectral images, detect elements such as neon and mercury and calibrating a spectrometer with a neon lamp. Also, data transmission via Bluetooth or WiFi makes this option portable and compact.

Research Assistant

August, 2020 - November, 2020

Center for Research in New Information Technologies (CINTI), Universidad Privada Bolivia

Developed a crawler task distribution from a master for the NAB project, which aims to collect and analyze a large number of GitHub repositories. This by using MQTT, NodeJS, Github REST API, and MongoDB.

Software Developer Intern

July, 2020 - August, 2020

Truextend

- Implemented CI/CD and Docker to automate the software delivery process of an internal application.
 - Enhanced login, main microfrontend and other internal apps by fixing bugs and adding new features.
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Publications

1. Zenteno A., **Orellana A.**, Villazon A., and Ormachea O. Automatic Selection of Reference Lines for Spectrometer Calibration with Recurrent Neural Networks. **(In process to be published)**
2. Work in Progress: A Booking System for Remote Laboratories - The EXPLORE Energy Digital Academy (EEDA) case study. **(In process to be published)**
3. Ormachea, O., Villazon, **A., Orellana, A.**, Zenteno, A. A low-cost 3D-printed spectrometer based on Raspberry Pi. **(Preprint)**
4. E. Rosales et al., "Characterizing Java Streams in the Wild," 2022 26th International Conference on Engineering of Complex Computer Systems (ICECCS), 2022, pp. 143-152, doi: 10.1109/ICECCS54210.2022.00025.
5. Villazon, A., Ormachea, O., Zenteno, A., **Orellana, A.** (2023). A Low-Cost Spectrometry Remote Laboratory. In: Auer, M.E., El-Seoud, S.A., Karam, O.H. (eds) Artificial Intelligence and Online Engineering. REV 2022. Lecture Notes in Networks and Systems, vol 524. Springer, Cham. https://doi.org/10.1007/978-3-031-17091-1_21.

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Honors & Awards

- 2022 **Winner** NASA Space Apps Challenge Cochabamba.
- 2022 **Finalist** Dive Into Reading Hackathon, an event of the embassy of The United States in Bolivia.
- 2021 **Graduation per Excellence with Summa Cum Laude honors.**
- 2020 **Honor roll of my degree** semester I.
- 2019 **Winner** University Excellence Scholarship, awarded to the top 3 students of engineering faculty.
- 2019 **Honor roll of my degree** semester I.
- 2018 **Honor roll of my degree** semester I and II.
- 2016 **Winner** of a scholarship for the "100 best high school students" provided by UPB.
- 2016 **Best High School Student Award** for outstanding academic achievement in my senior year.

* Honor roll is an award given to the top 5 students in every major department who must have a GPA of more than 87.5/100.

Skills

- Javascript and Python.
 - Mobile development: Flutter.
 - Web development: Angular, VueJS, HTML5, Angular Material, Vuetify, and CSS3.
 - SQL and NoSQL databases.
 - ESP32 and Raspberry Pi embedded systems.
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Certifications and additional courses

- Certification in HCIA Internet of Things, Huawei February 2022 - February 2025.
 - Machine Learning Specialization, DeepLearning.AI via Coursera.
 - Microsoft Cloud Skills Challenge Azure AI Fundamentals.
 - Design and 3D printing, Universidad Privada Boliviana.
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Languages

- **Spanish:** native
 - **English:** advanced
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Activities and interests

- Volunteered for "Mujeres Tics Bolivia" and "Ada In Data" communities that search to increase women's participation in the tech industry and reduce the existing gender gap:
 - Contributed to organizing events, including workshops and internal training, to promote skills development.
 - Shared my research experience and taught SQL to community members.
 - Assisted in artistic designs for community events and materials.
- Technology talks and workshops.
- Painting