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**

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

- Redesigned and implemented new features in SpectraUPB, a mobile spectrometry 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 laboratories access.
- Developed a Spectrometry Remote Lab with Angular and WebSockets to receive data from the SpectraUPB app and remotely interact with its features and lights (neon lamp, warm led, cold led, RGB led, and a laser) via ESP32.
- Implemented Raspberry Pi software features to process spectral images with OpenCV, integrate models to detect elements such as neon and mercury, calibrate a spectrometer with a neon lamp, and interpret transmitted data via Bluetooth in the client. This option is 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.

Publications

1. O. Ormachea, A. Villazon, **A. Orellana** and A. Zenteno, "A low-cost 3D-printed spectrometer based on Raspberry Pi," RIAO/OPTILAS, 2023. (Preprint)
2. A. Villazon, O. Ormachea, **A. Orellana**, A. Zenteno, and T. Fransson, "Work in Progress: A Booking System for Remote Laboratories - The EXPLORE Energy Digital Academy (EEDA) case study," REV2023 Conference.
3. A. Zenteno, **A. Orellana**, A.Villazon and O. Ormachea, "Automatic Selection of Reference Lines for Spectrometer Calibration with Recurrent Neural Networks," SmartTech-IC, 2022.
4. A. Villazon, O. Ormachea, A. Zenteno, and **A. Orellana,** "A Low-Cost Spectrometry Remote Laboratory," in Artificial Intelligence and Online Engineering, 2023.
5. E. Rosales, A. Rosa, M. Basso, A. Villazon, **A. Orellana**, A. Zenteno, et al., "Characterizing Java Streams in the Wild," 26th International Conference on Engineering of Complex Computer Systems (ICECCS), Mar. 2022.

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Honors & Awards

2022   **Winner** NASA Space Apps Challenge Cochabamba, Bolivia.

2022   **Winner** a scholarship for the Huawei Internet of Things certification as part of the 1000 Talents for the Digital Development of Latin America and the Caribbean program.

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 at Irlandes High School.

* 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.
- Docker, ESP32 and Raspberry Pi.

Additional courses

- Certification in HCIA Internet of Things, Huawei.
- Design and 3D printing, Universidad Privada Boliviana.
- Microsoft Cloud Skills Challenge Azure AI Fundamentals.
- Supervised Machine Learning: Regression and Classification, DeepLearning.AI via Coursera.

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 to community members with the aim of inspiring them to explore and participate in this field.
  - Assisted in artistic designs for community events and materials.
- Technology talks and workshops.
- Painting