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 SpectraUPB, a spectrometry mobile app, and implemented new features in Flutter such as exposure, focus, and calibration of a spectrometer with a mercury or a neon lamp manually or automatically.
- Developed a Booking platform in Angular for remote labs. It is used for members of the EUBBC Digital project of the Erasmus+ program.
- Developed a Spectrometry Remote Lab with Angular and WebSockets to receive data from the Spectra mobile app and interact with it and lights (neon lamp and an RGB led) through a ESP32.
- Implemented Raspberry Pi software to process spectral images, automatically detect elements such as neon and mercury and calibrating a spectrometer with a neon lamp.

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 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. 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	**Winner** of the certificate of recognition of high school of excellence.

* 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 in Flutter.
- Web development: Angular, VueJS, HTML5, Angular Material, Vuetify, and CSS3.
- SQL and NoSQL databases.
- ESP32 and Raspberry Pi embedded systems.

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.

Languages

- **Spanish:** native
- **English:** advanced

Activities and interests

- Volunteer for the "Mujeres Tics Bolivia", a community that seeks to motivate more women to be part of the world of technology and to break the existing gender gap.
  - Contribute to organize events.
  - Share my research experience.
  - Help in artistic designs.
- Technology talks and workshops.
- Painting and pixel art.