

## EDUCATION

### UNIVERSITY OF WASHINGTON

**Graduate Certificate in Embedded & Real-Time Systems Programming**  
Accepted for the October 2023 cohort

### UNIVERSIDAD DE LOS ANDES

**MEng. in Software Engineering**  
Jun 2023 | Bogotá, CO

### UNIVERSIDAD DE LOS ANDES

**Diploma in Principles of Agile and Automated Software Engineering**  
Jun 2021 | Bogotá, CO

### UNIVERSIDAD DE LA SABANA

**Diploma in Big data and Business analytics**  
Nov 2020 | Bogotá, CO

### UNIVERSIDAD DE LOS ANDES

**BS in Mechanical Engineering**  
Oct 2020 | Bogotá, CO

## SKILLS

### TECHNICAL SKILLS

Proficient with:

- Languages:** Golang, C++, Java, JavaScript (including ES6+), HTML5, CSS3, SQL, C#, Python, RStudio, Visual Basic, Matlab, OCaml.
- Frameworks:** React js, Angular, Vue js, Bootstrap, Flask, Springboot, Django.
- Technologies:** JQuery, Git (Git-Flow)/GitHub, AJAX, Nginx, Apache, WordPress, Elasticsearch, Kubernetes, Docker

### SOFT SKILLS

Outstanding at:

- Creativity and innovation.
- Excellent personal relationships and teamwork.
- Complementary studies in English and German.

## CERTIFICATIONS & COURSES

- AWS Certified Solutions Architect**  
Amazon
- AWS Cloud Practitioner Certification**  
Amazon
- Structuring Machine Learning Projects**  
Deep Learning.Ai
- Improving Deep Neuronal Networks: Hyperparameter tuning, Regularization and Optimization**  
Deep Learning.Ai
- Architecting with Google Kubernetes Engine**  
Google
- Google Cloud Platform Fundamentals: Core Infrastructure**  
Google
- Google Cloud Platform Big data and Machine Learning fundamentals**  
Google
- Structure of computer Networks**  
Google

## AWARDS

|      |           |  |
|------|-----------|--|
| 2021 | 1st Place | Coding competition (IEEE 2021-2)   Universidad Central |
| 2013 | 2nd Place | Augustinian schools programming tournament             |
| 2013 | 1st Place | Best student graduated                                 |

## EXPERIENCE

### RAPPI, Senior Software Engineer IV

Apr 2023 - Current

- Improved response times and latency in the primary application responsible for managing supermarket products, reducing response time on P99 from 680 ms to 150 ms.
- Conducted experimental development in productive environments using GraphQL to implement performance improvements in the central infrastructure of the area.
- Created an EDA (Event Driven Architecture) for managing complex queries to databases. The design architecture was capable of handling more than 1,000,000 events per day associated with in-app purchases with scope in 9 countries.

### UNIVERSIDAD DE LOS ANDES, Instructor Cloud native App Development

Sept 2022 - Dec 2022

- Designed "Development of Native Applications in the Cloud" course for master's students, covering Kubernetes, microservices, BDD, and serverless computing.
- Taught microservices design patterns with real-world industry scenarios, quantifying their impacts on performance, quality, and budget in software production.

### RAPPI, Senior Software Engineer III

May 2022 - Apr 2023

- Developed a paging algorithm for offer corridors in the application, reducing CPU usage on Elastic Search cluster and avoiding crashes in productive regions.
- Created a distributed navigation tree to improve navigation and efficient information retrieval from databases for supermarket corridors in the application.
- Implemented Jenkins pipeline scripts and continuous integration in Tier 1 microservices within the Core area.

### MERCADOLIBRE, Backend Software Analyst

Apr 2021 - May-2022

- Unified machine learning models and software architectures for e-commerce operations generating additional \$30.000 USD into daily revenue.
- Developed the Experimental Viewer for real-time product visualization and AI experiment monitoring, improving the capabilities of the Machine Learning department.
- Implemented APIs to scale the recommendation service for approximately 74.2 million mobile/web app users.

### SERLEFIN BPO & O, Software Engineer II

Nov 2020 - March-2021

- Developed the PCC mailing platform using Java, Bootstrap, and Angular 11, resulting in an efficient and secure application with around 2000 daily users and improving CSAT (Customer Satisfaction Score) from 3.2 / 5.0 to 4.4 / 5.0.
- Designed the frontend and backend of the Enterprise Resource Planning portal using Vue JS and C#, which unified all financial systems of the company and was utilized by about 6 departments in the company.

### SERLEFIN BPO & O, Software Engineer I

Apr 2020 - Nov 2020

- Created AI-powered robots to improve call center contactability, generating over \$5.000 USD/month in customer payments.
- Automated financial portals with Javascript, C#, and Tampermonkey, enhancing customer experience.
- Developed APIs for human resources and telecommunications divisions, processing 300 daily datasets for operational analysis using MVC and Entity Framework.

## PUBLICATIONS

- Optimizing Database Performance: Exploring Indexing Techniques in DBMS**  
Dev.to  
Academic article that explaining indexing techniques and their role in enhancing database management systems (DBMS) in software systems.
- Finding strongly connected components (SCC) in directed graphs: Kosaraju-Sharir vs Tarjan's algorithm in Go**  
Medium  
Academic article that explains the principal algorithms used to find SCCs on directed graphs. Analyzed their time complexity by coding benchmarks in Golang.
- Design patterns in microservices**  
Medium  
Academic article explaining scaling and resilience techniques in microservices, exposing good practices and strategies used in the industry.
- Artificial Intelligence Among us**  
El Espectador  
Article published in the newspaper El Espectador, about the importance of artificial intelligence in our society and how it is affecting it in a positive way.

## **VOLUNTEERING AND SOCIAL ACTIVITIES**

### **- Reforestation Initiative: Encenillo Biological Reserve**

Actively participated in a reforestation endeavor aimed at revitalizing areas adversely affected by mining and mineral extraction within the Encenillo Biological Reserve. Contributed to the strategic planting of eucalyptus trees, playing a key role in mitigating the ecological impact of these activities. Collaborated seamlessly with a team of 30 individuals, collectively achieving the successful planting of over 50 trees through multiple dedicated sessions.

### **- A-prender, conscious education**

During the final stages of my undergraduate thesis, I engaged in a part-time collaboration with A-prender, an organization dedicated to supporting school children facing learning obstacles and academic challenges. Played an integral role in teaching subjects including computer science and mathematics, contributing to the enhancement of students' academic abilities and fostering a positive learning environment.