

LUIS BARRAGAN

Technische Fakultät, University of Freiburg, Germany

Site: luisbarragan.co ◊ barragal@cs.uni-freiburg.de ◊ (+49) 1525 7271263

PROFILE

M.Sc. Student in Computer Science at The University of Freiburg specializing in Artificial Intelligence. B.Sc. in Systems Engineering with 5+ years of software development experience. Proficiency in Python, PHP, and Javascript. Experience with back-end frameworks (Flask, Django, Laravel, Lumen) and front-end technologies (Vue.js, HTML, CSS, Javascript). Experience in RESTful APIs, OpenAPI, Swagger, Docker, Webhooks, Unit Testing, SQL, NoSQL, Celery, Redis, Web Sockets, and Selenium. Experience with AWS services, Git, Numpy, Pandas, and Dash. Developed features and applications end-to-end from conception to deployment. Strong analytical and communication skills. Proficiency in written and spoken English (CEFR C1).

My career goal is to get more involved in AI, especially in areas such as Machine Learning, Computer Vision, and AI applied to IoT.

EDUCATION

University of Freiburg *October 2023 - Current*
Master's degree, Computer Science, with specialization in Artificial Intelligence.

Unidades Tecnológicas de Santander *January 2017 - March 2019*
Bachelor's degree, Systems Engineering. GPA: 4.72 on a 5.0 scale
Summa Cum Laude

Unidades Tecnológicas de Santander *January 2014 - March 2017*
Associate's degree, IT Systems Development. GPA: 4.59 on a 5.0 scale
Cum Laude

WORK EXPERIENCE

Senior Full Stack Engineer (Full-time) Project Waste Not, Inc.
San Francisco, California, United States · Remote *June 2022 - September 2023*

- Developed core features, API integrations with 3rd party services, and several ETL pipelines using Python, Flask, and Django.
- Identified and solved performance bottlenecks using profiling tools such as Django Silk.
- Ensured high availability of the AWS infrastructure for core services.
- Wrote SDD documents for new features and updated the documentation for existing features in Notion.
- Conducted production deployments and code reviews.

Skills: Django, Flask, Python, Pandas, MySQL, Celery, AWS, Vue.js

Senior Software Development Engineer (Full-time) Heinsohn
Bogota D.C., Colombia · Remote *February 2021 - June 2022*

- Built a messaging service from scratch to support one-to-one and one-to-many real-time communication between the users of CareTree using PHP, Lumen, Laravel, and Vue.js.
- Took the initiative to standardize the messaging service API according to the JSON:API Specification to help mitigate the bikeshedding problem.
- Designed and developed a responsive UI for the messaging service using Vue.js, Vuex, Firebase Cloud Messaging, and Firebase Realtime Database.

- Guided new development team members by conducting code reviews and project onboardings.

Skills: PHP, Laravel, Lumen, Vue.js, Vuex, jQuery, MariaDB, Firebase

Software Development Engineer (Full-time)

Bogota D.C., Colombia · Remote

Heinsohn

February 2020 - January 2021

- Engineered new features for a healthcare management software product: CareTree such as emergency access, automated workflows, and outgoing webhooks.
- Led the development and expansion of a RESTful API for mobile platforms.
- Participated in business and technical weekly meetings with the developer team, project manager, and client to ensure project milestones were met on schedule.
- Resolved software bugs and performance issues using debugging and profiling tools such as Laravel Debugbar.

Skills: PHP, Laravel, jQuery, MariaDB, Selenium

Software Developer (Full-time)

Bucaramanga, Santander, Colombia · On-site

Rambal S.A.S.

June 2019 - August 2019

- Remodeled the quality control software (RambalQC) UI by replacing jQuery and Vanilla JS with Vue.js enhancing the user experience.
- Implemented a fully customizable Role-Based Access Control method for RambalQC allowing the admins to define granular access permissions based on organizational hierarchy.
- Identified and optimized database queries resulting in a reduction in response times.
- Developed new features for RambalQC to support quality control metrics such as forms, plots, and reports.
- Conducted hands-on mentoring sessions covering Laravel fundamentals, MVC architecture, and best practices, reducing dependency on external contractors.

Skills: PHP, Laravel, Vue.js, Vuex, Vue Router, MSSQL

Software Developer (Freelance)

Bucaramanga, Santander, Colombia · Hybrid

Rambal S.A.S.

January 2018 - May 2019

- Collaborated in developing a web application for tracking quality metrics about the manufacturing processes of the company.

Skills: PHP, Laravel, jQuery, MSSQL

Systems Engineer (Full-time)

Bucaramanga, Santander, Colombia · On-site

Cootransmagdalena Ltda.

February 2016 - August 2017

- Developed a web-based application for efficient fleet maintenance management, aligning with the specifications outlined in Colombia's National Strategic Road Safety Plan.
- Coordinated the integrations and migration of data from outdated accounting software to a modern and robust system, ensuring data integrity and security.
- Maintained and optimized the On-premise IT infrastructure by implementing load-balancing, preventive and corrective maintenance, ensuring high availability and continuity of operations.
- Took initiative to identify and eliminate unnecessary costs, resulting in significant cost savings for the organization.

Skills: PHP, Laravel, jQuery

PROJECTS

DS4A program final project

Analyzing crime in the municipality of Jamundí, Valle del Cauca, Colombia.

People Counter App - Intel Edge AI program

Developed a real-time people counter application using video streaming and an object detection model optimized to be run on the Edge.

Computer Pointer Controller - Intel Edge AI program

Developed an app to control a computer pointer based on gaze (gaze estimation model) and head pose (head pose estimation model). Also used a face detection model as the entry point of the DL pipeline.

Bachelor's degree thesis

Hybridization of a genetic algorithm with a local search method to solve the university course timetabling problem.

Associate's degree final project

Analysis, design, and development of a Computerized Maintenance Management System (Reginar-CMMS) for the automotive fleet of Cootransmagdalena Ltda.

TECHNICAL STRENGTHS

| | |
|-----------------------------------|---|
| Data | Data Analysis, Data Cleaning, Database Design, ML |
| Programming Languages | Python, PHP, Javascript |
| Combinatorial Optimization | Search algorithms, Evolutionary algorithms, Metaheuristics |
| Databases | MySQL, PostgreSQL, Microsoft SQL, SQLite |
| Tools | Git, Docker, Firebase, Django, Flask, Laravel, Celery, Selenium |

ACADEMIC ACHIEVEMENTS

Received the DAAD-Colfuturo Scholarship in August 2023 to pursue Master's studies in Computer Science at the University of Freiburg.

Received the Huawei Seeds For The Future Scholarship from June 18th to July 1st 2017 in Beijing and Shenzhen, China.

Participated as Speaker in the XIX National and XIII International Encounter of Research Seedbeds, held at the Simón Bolívar University in the city of Cúcuta, Colombia from October 13th to 16th, 2016.

Awarded with the Academic Excellence Scholarship four years in a row for exceptional performance in academics.

Won First Prize in Programming Contest organized by Pontifical Bolivarian University, Bucaramanga in April 2013.

HONORS AND AWARDS

Awarded with the Summa Cum Laude distinction as part of the Bachelor's degree in Systems Engineering. Bucaramanga, March 21st, 2019.

Awarded with the Cum Laude distinction as part of the Associate's degree in IT Systems Development. Bucaramanga, March 24th, 2017.

EXTRA-CURRICULAR AND VOLUNTEERING

Participated in the diploma course of ICT Competences as part of the JuvenTIC program by Google Inc. and Colnodo.

Provided technical collaboration voluntarily for the formative research event: Semilla Expo, at Santander Institute of Technology in November 2017.

Participated as Attendee in the Cloud Computing & Big Data Day, held on April 20th, 2015 in the city of Bucaramanga, Colombia.

Participated as an Attendee in the International Congress on Innovation and Appropriation of Information and Communication Technologies, held at the Campus of the Pontifical Bolivarian University on September 12th and 13th, 2013 in the city of Bucaramanga, Colombia.

ACCOMPLISHMENTS

Data Science Math Skills *March 2023*
Coursera

Data Science for All - Cohort 6 (Graduated with Honors) *July 2022*
Data Science for All by Correlation One

AWS Certified Cloud Practitioner *December 2021 - December 2024*
Amazon Web Services (AWS)

AWS Machine Learning Foundations *October 2021*
Udacity

Intel Edge AI for IoT Developers Nanodegree *October 2021*
Udacity

IoT Fundamentals: Connecting Things *October 2018*
Cisco Networking Academy

IoT Fundamentals: Big Data & Analytics *October 2018*
Cisco Networking Academy

Introduction to IoT *July 2018*
Cisco Networking Academy

Health Care IT: Challenges and Opportunities *February 2018*
Icahn School of Medicine at Mount Sinai through Coursera

PERSONAL TRAITS

Self-starter, capable of taking initiative to identify and resolve problems.

Disruptive creative thinking, open-minded, and cooperative.