

# Manuel Eduardo Rivera Argueta

Software Engineer | Python Developer | Observability & Data Analyst

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github.com/Manriv31

## About Me

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Software Engineer with over 5 years of experience in web development, software engineering, and IT observability. Skilled in building full-stack web applications using Python (Django, Flask, FastAPI) and PHP (CakePHP, Laravel), from requirements analysis and database design to deployment and maintenance. Experienced in developing internal tools and management systems that streamline workflows, automate processes, and improve team productivity. Strong background in relational databases including MySQL, SQL Server, and PostgreSQL. Currently working as a Data & Observability Analyst in the banking sector, applying the five-layer observability methodology using tools such as Zabbix, Dynatrace, Grafana, ELK Stack, and Prometheus to monitor critical applications, identify operational risks, and ensure system reliability. Actively involved in incident response coordination and cross-team collaboration to strengthen monitoring protocols and reduce downtime. Holds a B.S. in Computer Engineering and a Master's in Cybersecurity. Adaptable, team-oriented, and committed to writing clean, secure, and maintainable code.

## Education

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**Universidad Católica San Antonio de Murcia (UCAM)**, M.S. in Cybersecurity May 2024 – May 2025

- Thesis: Protecting Smart Homes, Risks and Security Solutions in Domestic IoT.

**Universidad Evangelica de El Salvador (UEES)**, B.S. in Computer Engineering – San Salvador, El Salvador Jan 2016 – Oct 2021

- Thesis: Web Platform for Public Transportation Information in El Salvador (Busitosv).
- Recognition at the Technology Innovation Fair for the project "Intelligent Air Quality Monitoring Device"; project selected to participate in international technology innovation fairs in Honduras and Costa Rica.

## Experience

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**Data & Observability Analyst**, *OE International - Banco Agricola – San Salvador, El Salvador* Nov 2021 – present

Responsible for implementing monitoring checkpoints across Banco Agricola's critical applications and systems, applying the five-layer observability methodology to ensure high availability, early anomaly detection, and operational continuity. Performed data analysis by designing and maintaining ETL pipelines with Python to extract, transform, and deliver meaningful business metrics, enabling stakeholders to make informed decisions based on real-time and historical data. Complemented monitoring and analytics responsibilities with internal software development, building web-based tools and automation solutions that improved team efficiency and standardized operational workflows.

- Played a key role in identifying and mitigating operational risks, contributing to the financial stability and security of the institution
- Collaborated with cross-functional teams to develop and improve incident response protocols, ensuring rapid and effective response to detected anomalies
- Led internal initiatives including ETL scheduling and orchestration on server, deployment of an internal Gitea repository, implementation of an internal Bookstack wiki, and configuration of efficient alerting through monitoring tool webhooks integrated with Microsoft Teams
- Built internal web systems using Python with Flask and Django, applying secure coding practices.

**Full Stack Developer**, *Fosalud – San Salvador, El Salvador*

Feb 2020 – Dec 2021

Led the development and deployment of a web-based system to manage health program statistics and key indicators, built with PHP (CakePHP), MySQL, JavaScript (jQuery), and CSS, with ZingChart for data visualization. Handled requirements analysis, architecture design, feature development, testing, and project documentation.

- Delivered a production system currently in use by Fosalud's data entry team, unifying information and enabling efficient report generation.
- Automated manual processes, streamlining daily tasks and improving data quality across the team.

**QA Analyst**, *Grupo Satelite – San Salvador, El Salvador*

Nov 2019 – Jan 2020

Performed comprehensive QA testing on ERP software, focusing on user/role management and inventory administration. Conducted detailed manual and real-time testing to ensure system functionality, documenting issues and collaborating with the development team for resolution.

- Contributed to automated testing scripts that improved the efficiency of the QA process
- Integrated manual and automated testing approaches for more effective quality assurance
- Worked with high-profile clients including Centro Cultural Salvadoreño, Pricesmart, and Save the Children

**Web Developer**, *Brightness Developing Solutions - Fast Care – San Salvador, El Salvador*

Aug 2019 – Dec 2019

Developed and maintained PHP web applications for medical supply inventory management. Designed and optimized MySQL databases to improve query performance and data storage efficiency. Collaborated with the development team to implement new features aligned with business requirements.

- Built robust inventory management systems ensuring reliable tracking of medical supplies.
- Optimized database queries, improving application speed and overall performance.
- Provided technical support, identifying bottlenecks and debugging issues to maintain software quality.

## Skills

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**Programming Languages:** Python, PHP, JavaScript, CSS

**Frameworks & Libraries:** Frameworks (Django, Flask, FastAPI, CakePHP, Laravel, Bootstrap), Python Libraries (Pandas, NumPy, Matplotlib), JavaScript Libraries (jQuery)

**Infrastructure and Tools:** Linux, Windows, Docker, Git

**Databases:** MySQL, SQL Server, PostgreSQL, SQLite3, MongoDB

**Monitoring & Observability:** Zabbix, Dynatrace, Grafana, ELK Stack, Prometheus

## Languages

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**Spanish:** Native

**English:** Intermediate (B1)