

# ELIÃ RAFAEL DE LIMA BATISTA

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6963 Pregassona, Ticino, Switzerland

Valid Swiss Work Permit | Available to relocate or commute

## EDUCATION

### University of Lugano (USI)

PhD in Informatics

Lugano, Switzerland

2021 – Feb 2026

### PUC-RS

MSc in Computer Science

Porto Alegre, Brazil

2018 – 2020

### PUC-RS

BSc in Computer Science

Porto Alegre, Brazil

2006 – 2011

## PROFESSIONAL SUMMARY

Systems architect and software engineer with over 15 years of experience in designing, developing, and optimizing distributed and fault-tolerant systems. Expertise in **Java, Go, Python, C**, and distributed system frameworks. Skilled in blockchain technologies, consensus algorithms, and secure high-performance computing. Proven ability to lead architectural design, technical decision-making, and system implementation for complex financial and experimental systems.

## PROFESSIONAL EXPERIENCE

### Researcher and Teaching Assistant

University of Lugano (USI)

2021 – Present

Lugano, Switzerland

- Lead the design and development of fault-tolerant distributed systems, including SMR and atomic multicast frameworks, using **Java, Go, Python, and C**.
- Implemented blockchain-related research prototypes, focusing on consensus, reliability, and performance.
- Administered and optimized Linux clusters for high-performance and secure experiments.
- Provided architectural guidance and code review for experimental distributed system components.
- Teaching assistant for Operating Systems, Distributed Algorithms, and Systems Programming courses.

### Senior Software Developer

Compasso UOL

2017 – 2020

Brazil, RS

- Led full-stack and backend architecture for enterprise applications, ensuring scalability, security, and reliability.
- Contributed to technical decision-making, system design, and CI/CD pipelines.
- Mentored developers and collaborated on architecture discussions to align on high-quality solutions.

### System Analyst

Bem Promotora

2014 – 2017

Brazil, RS

- Developed financial ERP modules and backend systems with a focus on stability, security, and compliance.
- Analyzed complex system requirements and translated them into technical designs and processes.

### Software Developer

DBServer

2010 – 2013

Brazil, RS

- Built ERP backend modules and optimized SQL Server workflows to ensure performance and consistency.

### Software Developer

Vensis

2008 – 2010

Brazil, RS

- Developed and maintained ERP and backend solutions using Microsoft technologies, focusing on robust design and maintainability.

## ACADEMIC PUBLICATIONS

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Michele Cattaneo; Eliã Batista; Fernando Pedone. **B+AVL trees: towards data structures for robust and efficient blockchain state synchronization**. Proceedings of the 44th International Symposium on Reliable Distributed Systems, 2025.

Eliã Batista; Paulo Coelho; Eduardo Alchieri; Fernando Dotti; Fernando Pedone. **FlexCast: Genuine Overlay-based Atomic Multicast**. Proceedings of the 24th International Middleware Conference, 2023.

Eliã Batista; Eduardo Alchieri; Fernando Dotti; Fernando Pedone. **Early Scheduling on Steroids: Boosting Parallel State Machine Replication**. Journal of Parallel and Distributed Computing, 2022.

Eliã Batista; Eduardo Alchieri; Fernando Dotti; Fernando Pedone. **Resource Utilization Analysis of Early Scheduling in Parallel State Machine Replication**. Proceedings of the 9th Latin-American Symposium on Dependable Computing, 2019.

## SKILLS

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**Languages:** English (fluent), Italian (intermediate), Portuguese (native)

**Programming:** Java, Go, Python, C, Visual Basic

**Distributed Systems:** Consensus, Paxos, SMR, Atomic Multicast, Blockchain architecture

**DevOps/Tools:** Git, Maven, Gradle, REST APIs, Linux administration

**Blockchain & Security:** Cryptography, secure distributed protocols, fault tolerance, state management, authenticated data structures

**Frameworks:** ReactJS, Node.js, Next.js