Eliã Rafael de Lima Batista

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6963 Pregassona, TI, Switzerland

Education

Ph.D. in Informatics   2021 – Present
Università della Svizzera Italiana (USI)   *Lugano, Switzerland*

M.Sc. in Computer Science   2018 – 2020
Pontifical Catholic University of Rio Grande do Sul (PUC-RS)   *Porto Alegre, Brazil*

B.Sc. in Computer Science   2006 – 2011
Pontifical Catholic University of Rio Grande do Sul (PUC-RS)   *Porto Alegre, Brazil*

Professional Summary

Software engineer and researcher with over **15 years** of experience designing and implementing high-performance software and fault-tolerant systems. Currently a **Ph.D. candidate** and researcher at Università della Svizzera Italiana (USI) in Lugano, Switzerland, specializing in distributed systems. Proficient in **Java**, **Node.js**, **Go** and **Python** for back-end development, and skilled in **ReactJS**, **Next.js** , and **React Native** for front-end and mobile applications. Experienced in **Linux environments**, **system optimization**, and **leading development teams**. Passionate about building robust systems that connect cutting-edge engineering with real-world impact.

Professional Experience

Researcher and Teaching Assistant   2021 – Present
Università della Svizzera Italiana (USI)   *Lugano, Switzerland*

- Conducted **research and development** in distributed systems using **Java**, **Go**, **Python**, **C**, and **Bash** on **Linux** environments. Administered a **Linux cluster**, developed core replicated systems components focusing on **performance** and **fault tolerance**, and authored research papers for top distributed systems conferences. Also a **Teaching assistant** for Operating Systems, Systems Programming, and Distributed Algorithms courses.

Senior Software Developer   2017 – 2020
Compasso UOL   *Brazil, RS*

- Led the development and developed scalable full-stack web applications using **ReactJS** and **Node.js**, contributing to architecture decisions and continuous integration workflows.
- Built and maintained cross-platform mobile applications with **React Native**, integrating secure and performant **RESTful APIs** for enterprise clients.
- Collaborated with UI/UX designers to implement responsive, user-centric features, improving engagement and usability across platforms.
- Contributed to **Agile** processes (**SCRUM**), code reviews, and mentoring of junior developers in modern JavaScript and mobile best practices.

System Analyst   2014 – 2017
Bem Promotora   *Brazil, RS*

- Developed and maintained **ERP modules** for a credit payroll loan financial company linked to Banrisul, a major bank in Southern Brazil.
- Analyzed, documented, and communicated new system features to the development team to improve business process efficiency.

- Implemented complex business rules and data processing using **SQL Server** stored procedures for accurate loan management and reporting.

Software Developer   2010 – 2013

DBServer   *Brazil, RS*

- Developed and customized ERP modules using **Microsoft Visual Basic** tailored for a major fuel retail network (Ipiranga) in Brazil, improving operational efficiency and sales tracking.
- Integrated and managed backend logic with **SQL Server** for efficient data storage and retrieval.

Software Developer   2008 – 2010

Vensis   *Brazil, RS*

- Built and maintained general-purpose ERP modules with **Microsoft Visual Basic**, adaptable for various enterprise environments.
- Optimized **SQL Server** queries and stored procedures to boost system performance and data consistency.

ACADEMIC PUBLICATIONS

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, Porto, Portugal, 2025.

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

Eliã Batista; Eduardo Alchieri; Fernando Dotti; Fernando Pedone. ***Early Scheduling on Steroids: Boosting Parallel State Machine Replication***. Journal of Parallel and Distributed Computing, Volume 163, May 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, Brazil, 2019.

SKILLS

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

Programming Languages: Java, JavaScript, HTML/CSS, C/C++, SQL, Go, PHP, Visual Basic.

Frameworks & Methodologies: ReactJS, Node.js, React Native, Next.js, Agile, SCRUM.

Developer Tools & Platforms: Git, Maven, Gradle, REST APIs, VS Code.

Databases & Storage: SQL Server, PostgreSQL, MongoDB, Firebase Realtime Database.

Distributed Systems: State Machine Replication, Blockchains.