# Luís Ribeiro
S o f t w a r e   E n g i n e e r

## ABOUT ME

Software Engineer and Architect with a strong focus on software configuration and safety-critical systems. Passionate about applying Formal Methods to bridge theory with real-world software development.

I am always open to new opportunities and committed to continuously expanding my skills and expertise.

### PERSONALITY

- Enthusiastic and proactive team contributor
- Reliable and accountable
- Motivated by teaching and mentoring

### INTERESTS

- Formal Methods
- Embedded Systems

## WORK EXPERIENCE

### Internship @HydraIT

**February 2022 – May 2022**
- Developed Microsoft ERP solutions for clients.

**Skills**: ERP, C/AL

### Research Collaborator @INESCTEC

**March 2022 – August 2022**
- Contributed to research on model checking of hyperproperties, with a focus on correctness and security in distributed systems using Formal Methods.

**Skills**: Alloy, TLA+, Researching

### Software Engineer & Architect @Bosch

**February 2023 – now**
- Contributed to the development and quality of the airbag software.
- Led and trained teams on the software configuration method, improving consistency and process adherence.
- Performed formal analysis of safety-critical airbag software using TLA+, increasing confidence in correctness and robustness.
- Acted as proxy and internal trainer for software modelling practices, promoting the adoption of rigorous design methods.

**Skills**: pure::variants, SysML, TLA+, C

## HOBBIES

Outside of work, I like to stay mentally and physically active. I enjoy reading — particularly Philosophy — as it challenges my thinking and broadens my perspective.

I also keep a regular sports routine, mainly playing basketball and football.

More recently, I've developed a strong interest in film photography and have been enjoying the learning process behind it.

## EDUCATION

### Software Engineering @Universidade do Minho

**2017–2022**
**MSc Degree: Formal Methods and Language Processing**
- Developed a strong understanding of operating systems and distributed computing.
- Designed and implemented mobile and web applications, integrating REST APIs and modern development frameworks.
- Engineered language processing solutions, including lexical and parsing analysers.
- Mastered formal modelling and verification techniques, applying mathematical rigor to software correctness.

### MAIN PROJECTS

- portourgal: Mobile app to showcase routes and monuments across Portugal.
- CocktailDB: Web app to showcase cocktails with interactive UI.
- svROS: Command-line tool for verification of ROS-based systems using model-checking.

### Software Architecture Certification @iSAQB

**December 2025**
- Learned about the foundations of software architecture and design.
- Completed the "iSAQB Certified Professional for Software Architecture – Foundation Level" certification.