Ricardo Cavalheiro, MsC

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Summary

Software Engineer with a Master's degree, possessing 1 year of full-stack web development experience.

Education

- **Faculty of Engineering, University of Porto**
  Master's Degree in Informatics and Computing Engineering (GPA: 18/20) — Porto, Portugal
- **Budapest University of Technology and Economics**
  Erasmus+ Exchange Program, Master's Degree in Computer Science (GPA: 4.7/5) — Budapest, Hungary

Experience

- **INESC TEC** — **Jun 2024 – Present**
  Researcher — Porto, Portugal
  - Led the integration of **Large Language Models (LLMs)** into the health data anonymization pipeline, automating key steps of the process.
  - Optimized dataset retrieval with **caching mechanisms**, reducing response time by **80%** and boosting system performance.
  - Engineered **Java backend services** supporting **AI-driven anonymization strategies** with automated decision support.

- **Faculty of Engineering, University of Porto** — **Feb 2025 – Jun 2025**
  Monitor — Porto, Portugal
  - Guided students in both theoretical and practical aspects of **Computer Graphics**.
  - Collaborated with faculty to clarify assignments, conduct lab sessions and evaluate student projects, enhancing learning outcomes.

- **Critical Manufacturing** — **Feb 2024 – Jun 2024**
  Software Engineering Intern — Porto, Portugal
  - Built a **virtual reality application** using **Godot**, integrating the **Manufacturing Execution System (MES) API** for immersive factory simulations.
  - Implemented **OpenID authentication** for secure access to the VR system.
  - Improved training and decision-making via real-time, interactive production workflow visualizations.

- **Fraunhofer Portugal** — **Feb 2023 – Jun 2023**
  Software Engineering Intern — Porto, Portugal
  - Developed a web app enabling real-time sensor communication via **Serial Port** from **Kalisto devices**.
  - Designed a **scalable MongoDB database** to efficiently store and retrieve sensor data.
  - Created a **real-time dashboard** for data visualization and **remote device monitoring**.

Projects

- **WNBA Playoff Teams Prediction**: Developed a **supervised learning model** to predict playoff teams in the Women's National Basketball Association (WNBA). Applied **data pre-processing** techniques to enhance data quality and optimize model performance, improving prediction accuracy.
- **Shopping List Application**: Designed a **large-scale distributed system** to support millions of users, ensuring high availability, fault tolerance and data integrity. Implemented CRDTs for conflict resolution in a distributed environment and leveraged data sharding inspired by Amazon DynamoDB for efficient data distribution and scalability.

Skills

- Python, Java, JavaScript, C/C++, C#, PHP, SQL, React, Spring, Angular, NodeJS
- Docker, Git, REST API, AI/Machine Learning, Software Architecture, IoT, Full-Stack Development

Languages

English: Fluent
Portuguese: Native