PEDRO PIRES

📍 Braga, Portugal

Developer ~ Engineer

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RESUME

I am 22 years old, proactive, communicative, and enjoy meeting and collaborating with new people. I have a genuine passion for solving problems and developing high-quality solutions. I value continuous learning and see every challenge as an opportunity to grow. I am currently seeking a job opportunity where I can develop professionally and contribute with enthusiasm and dedication.

SKILLS

Programming Languages: Java, Java Springboot, SQL, Python, HTML, CSS, JavaScript, Prolog, C, C++, Assembly, R.

Technologies: Linux, Docker, SpringBoot, Spark, Hadoop HDFS, Hive, Tableau, PowerBI, RapidMiner, Talend, Core, XigmaNAS, NGinx, Figma, Microsoft365.

LINGUAGENS

Portuguese: Native || **English:** Fluent || **Spanish:** Basic

DEVELOPED PROJECTS

Web Systems and Online Applications

Online Bookstore with Microservices: Migration of a monolithic application to a microservices architecture.
Technologies and Patterns: Java, Spring Boot, Kafka, MySQL, API Gateway, JWT, REST API, CQRS Pattern, SAGA Pattern.

Web App for Environmental Association: Frontoffice and backoffice for an association dedicated to cleaning beaches, rivers, and reforestation.
Technologies: HTML, CSS, Bootstrap, JavaScript, Vue.JS, Google API.

Handball Team Support System: Web platform with a backoffice for team and match management.
Technologies: Java, Spring Boot, HTML, CSS, JavaScript, SQL.

Warehouse Logistics System: Low-code solution for inventory management across multiple warehouses, integrating external APIs.
Technologies: Outsystems, SAP API, MOLONI API.

Security Engineering and Infrastructure

Information Security Project: Access control with BLP model, network traffic analysis with Wireshark, risk assessment based on ISO/IEC 27005, digital certificate management using OpenSSL, and network protection with firewall and intrusion detection (pfSense and Suricata).
Technologies: BLP, Wireshark, ISO/IEC 27005, OpenSSL, X.509.

Distributed Inventory Management: Secure communication between processes with authentication and encryption.
Technologies: Java, Java Sockets, Java RMI, RSA+SHA256, Linux.

NAS Infrastructure and Distributed Processing: Cluster with XigmaNAS and multiple computers for file and service sharing.
Technologies: Docker, Go, XigmaNAS, NGINX.

Computer Network Simulation: Router mapping and network simulation in a virtualized environment.
Technologies: HTML, Linux, Core.

Data Processing, Analysis and Visualization

Interactive Dashboard on UK Homicides: ETL pipeline and creation of interactive dashboards with geographic and temporal analysis.
Technologies: Spark, Python, Talend, Hadoop HDFS, Tableau.

Book Dataset Modeling: Integration and comparison of data across different database models.
Technologies: MySQL, Apache Cassandra, Neo4J.

Machine Learning, Optimization and Artificial Intelligence

Forecasting and Optimization System: Application for predicting sales and optimizing resources using predictive models and heuristic algorithms.
Technologies and Methods: R, forecast, rminer, shiny, predictive models (XGBoost, ARIMA, ARIMAX, Random Forest, Holt-Winters), heuristics (Monte Carlo, Hill Climbing, Simulated Annealing, PSO, Differential Evolution, NSGA-II), rolling/growing window.

Real Estate Predictive System: Development of regression, classification, and clustering models to predict property prices, extract market patterns, and present results in an interactive dashboard.
Technologies and Methods: Python, Scikit-learn, Power BI, PCA, K-Means, DBSCAN, Decision Tree, Random Forest, NN, SVM, KNN.

AI Model for Medical Prescriptions: Symptom classification and medical decision support using declarative logic.
Technologies: Prolog, RapidMiner.

EDUCATION

2024 – 2026: Master's in Information Systems Engineering

University of Minho — Completed the first year with a current average grade of 17/20.

2022 – 2024: BSc in Information Systems and Management Engineering

University of Minho — Final grade average: 16/20.

2020 – 2022: BSc in Electronic Engineering
Completed two years before transitioning to Information Systems. It was an enriching experience where I deepened my knowledge in electronics and low-level programming.

2017 – 2020: High School Diploma in Science and Technology

Alberto Sampaio Secondary School — Final grade average: 17.2/20.

EXPERIENCE

2025 – Present: Freelance Developer

WenovGov — Developing a digital platform to manage RGPC (General Regime for the Prevention of Corruption), with a focus on decentralized input and multi-entity public administration management.

2021 – Present: Administrative Assistant
Portuguese Association of Public Contracts — Coordination of training sessions and support for trainers.

Sep 2016 – Oct 2022: Luxury Goods Sales Assistant

Carlos Pires Jeweler — Regularly supported sales in a family business, particularly during holidays, contributing to communication skills and improving English proficiency.

Sep 2021 – Oct 2021: Retail Sales Assistant

Salesland — Met and exceeded sales goals, standing out among new hires and being the only one to earn the bonus.