João Marques

Informatics Engineering Student

TECHNICAL KNOWLEDGE

Mathematics: Notions of Algebra, Calculus and Statistics.

Programming: Object Oriented and Functional programming in Python, Java, Javascript, C, C++, C #, Visual Basic, MatLab, ANTLR, Assembly.

Algorithms: Fundamental algorithmic strategies involving iteration and recursion. Performance analysis of iterative and recursive algorithms in terms of their algorithmic complexity. Application of systematic debugging strategies, fault management and implementation of algorithms and data structures with correction and robustness.

Compilers: Construction and analysis of compilers and language interpreters with ANTLR.

Databases: Creation and management of relational databases (Microsoft SQL Server / Transact-SQL, MySQL, PostgreSQL), NoSQL key-value (Redis), document-oriented (MongoDB), column-oriented (Cassandra) and graph-oriented (Neo4j).

Computer Architecture: Architecture concepts and knowledge of Assembly programming for MIPS.

Networks: Concepts of network configuration and administration. Knowledge of TCP / IP, STP and RSTP, DHCP and DNS, OSPF, BGP, RIP, NAT / PAT protocols. Knowledge of network and application layers, Sockets, and network security.

Systems: Advanced knowledge of Linux operating systems, creation and management of distributed systems, systems with semaphores, mutexes and Sockets. Practical experience with server configuration and administration.

Web Frontend Programming: Knowledge of HTML, CSS and JavaScript. Bootstrap, KnockoutJS, Web Apps in Django-Frontend, Angular and React.

Web Backend Programming: Knowledge of REST APIs programming with Django, SpringBoot and Flask.

Multimedia: Knowledge of signal processing and compression algorithms.

Security: Notions of security against SQL Injection and Cross Site Scripting; Cryptography, Penetration Testing and Forensic Analysis.

Software Engineering and DevOps: Agile development strategies. Requirements specification. UML diagrams. Familiar with GIT (GitHub and GitLab), Docker, Maven and other project management platforms. Some knowledge of Kubernetes.

Artificial Intelligence: Knowledge and academic experience with intelligent agent programming.

Machine Learning: Knowledge of Neural Networks programming and application of automatic learning models.

SKILLS

Accustomed to working in teams, collaborative work and management of large projects.

Fast learning and availability to learn.

Ease of contact with people / human relations.

Voluntary work carried out continuously for more than 10 years.

Experience with dynamizing workshops.

EDUCATION

Universidade de Aveiro, Aveiro – *Computer Engineering*

SEPTEMBER 2017 - AUGUST 2020

Degree in Computer Engineering, which aims to provide a solid background in computer engineering, with a combined emphasis in Software Engineering and Information Systems.

(More information)

Escola Secundária Adolfo Portela, Águeda – *Science and Technology*

SEPTEMBER 2014 - AUGUST 2017

Final average of 18.3/20.

LANGUAGES

Mother tongue: **Portuguese**

Also fluent in speaking, reading and writing in **Spanish** and **English**.

Experience in **translation and interpretation** from Portuguese to Spanish.

PROJECTS

MyLife – *Project in Informatics*

Final Project in Informatics Engineering, where we apply all the knowledge acquired during the course. (More information available soon on the website)

Bomberman AI – *Artificial Intelligence*

Artificial Intelligence to play and win the Bomberman game.

Secure Communications – *Security*

Secure communication channel using encryption techniques.

Distributed Systems – *Distributed Systems*

Several projects involving programming and configuration of distributed systems.

(More projects / information)

AWARDS

Winner of the **TECLA** competition, organized by the Águeda School of Technology and Management – ESTGA (University of Aveiro) in 2017.

Participation in **the national final** of the **2017 National Informatics Olympics** (23rd place)