

João Fontes



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EXPERIENCE

Advanced Backend Engineer / Sep 2024 - present

Loka Inc., Lisbon, Portugal

Developing scalable and maintainable backend systems using Python and modern frameworks such as FastAPI. Designed and implemented robust RESTful APIs and high-throughput data processing pipelines. Utilized Docker and cloud technologies to ensure high performance, reliability, security, and observability in production environments while providing on-call support.

R&D Engineer / Jul 2023 - Aug 2024

Swoove Studios, Antwerp, Flemish Region, Belgium

Played a key role in elevating animation quality through innovative AI solutions. Leveraged Python expertise to develop advanced Pose Estimation and Reconstruction tools, utilizing PyTorch and integrating with Procedural Animation in Unity. Engineered a cutting-edge animation search system, by combining Python-based NLP with Azure.

Analyst/Senior Analyst / Sep 2021 - Jun 2023

Accenture Portugal, Braga, Portugal

Consulted for major clients in the telecommunications and retail sectors. Gained hands-on experience in Java backend development and managed a critical order tracking system, utilizing a tech stack that included Golang and AWS. Contributed to system enhancements and provided on-call troubleshooting support.

Research Fellow/Senior AI Researcher / Oct 2017 - Jul 2021

CCG/ZGDV Institute, University of Minho, Guimarães, Portugal

Initially joined as a Research Fellow until 2018, then advanced to Senior AI Researcher. Contributed to cutting-edge EU-funded research projects, focusing on AI applications in criminal investigation and Industry 4.0. Utilized Python for developing AI solutions, bridging academia and industry. As experience grew, mentored new research fellows, sharing expertise in AI methodologies and their practical applications across diverse sectors.



TECHNICAL SKILLS

Core Competencies: Machine (Deep) Learning, Computer Vision, Backend Development

Programming Languages: Python, Golang, C#, JavaScript, C/C++, Java, SQL

Technologies & Frameworks: PyTorch, TensorFlow, Keras, Flask, Node.js, Docker, AWS, Azure, React, Django



EDUCATION

Ph.D. in Information Systems and Technology / 2020 - present

University of Minho, Braga, Portugal

Focus: Development of Quantitative Imaging Biomarkers for cancer diagnosis and monitoring, applied to breast cancer

Thesis: "A Framework for the Development of Quantitative Imaging Biomarkers for Cancer Research"

M.Sc. in Informatics Engineering / 2016 - 2018

University of Minho, Braga, Portugal

Specializations: Artificial Intelligence, Business Intelligence, Parallel and Distributed Computing

Thesis: "Intelligent Medical Image Analysis: A Deep Learning Approach to Breast Cancer Diagnosis"

B.Sc. in Informatics Engineering / 2013 - 2016

University of Minho, Braga, Portugal

Core curriculum covering programming, algorithms, computer architecture, databases, and advanced mathematics.



PUBLICATIONS

Deep Learning Framework for Breast Cancer Subtypes Detection and Diagnosis / 2026

Biomedical Signal Processing and Control, under review

A Comprehensive Framework for Detecting and Diagnosing Breast Cancer Phenotypes in MRI / 2025

European Congress of Radiology (ECR), Poster C-24782,

Accurate Phenotyping of Luminal A Breast Cancer in Magnetic Resonance Imaging: A New 3D CNN Approach / 2025

Computers in Biology and Medicine, vol. 189, 109903,

An Innovative Faster R-CNN-Based Framework for Automated Detection of Breast Cancer Pathological Lesions in MRI / 2023

Journal of Imaging, vol. 9, no. 9, 169,

Deployment Service for Scalable Distributed Deep Learning Training on Multiple Clouds / 2021

11th International Conference on Cloud Computing and Services Science (CLOSER), 135–142,

Representation Learning Approach to Breast Cancer Diagnosis / 2019

European Congress of Radiology (ECR), Poster C-2062,

AGATHA: Face Benchmarking Dataset for Exploring Criminal Surveillance Methods on Open Source Data / 2018

2018 International Conference on Graphics and Interaction (ICGI), 1–8,



CERTIFICATIONS

AWS Certified Cloud Practitioner / Aug 2024

Earners of this certification have a fundamental understanding of IT services and their uses in the AWS Cloud. They demonstrated cloud fluency and foundational AWS knowledge.



ADDITIONAL INFO

Languages: Portuguese (native), English (fluent), Spanish (fluent), German (basic)

Licenses: Car driving license, Motorcycle license (up to 125 cm³)