

André Carvalho

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Date of Birth 18th December 1991
Nationality Portuguese

Positions

- 2019-*** **Software Engineer & Machine Learning (Researcher) - Instituto Soldadura e Qualidade**
- Application and research of deep neural networks solutions, to identify olive tree plagues using ESA hyperspectral satellite imagery;

- Predictive maintenance ML models for early detection of industrial machinery malfunction. Dev. of web-based management platform (also deploy by me via EC2 - AWS).

- Optimization of water supply systems distribution network using machine-learning models. Leveraging either high-performance computing (HPC - SLURM) or in alternative using AWS cloud computing services (Spark).
- 2015 - 2019** PhD Researcher - INESC-ID
 INESC-ID Lisboa, Lisbon, Portugal
- 2017-2018** Lab Professor - Foundations of Programming
1 Semester Instituto Superior Técnico, Lisbon, Portugal
- 2016-2017** Lab Professor - Introduction to Algorithms and Data Structures
2 Semester Instituto Superior Técnico, Lisbon, Portugal

Skills

- **Machine-learning & Computer Vision**
tensorflow/keras, opencv, sklearn, numpy/pandas, matplotlib/seaborn, flask, termcolor among many other libraries (ask me!).
- **Programming Languages & Databases**
*Python, Java, C, Matlab, C++, R, PHP, JavaScript, NodeJS.
Elasticsearch, MongoDB, SQL(MS SQL, MySQL, Postgres), HDF5, JSON*
- **Web Development**
*HTML5, CSS3/SASS, Angular/JavaScript/CoffeeScript/jQuery
HTTP REST APIs (front & backend), Websockets
tomcat/Apache2/Nginx Web Servers*
- **Misc**
*git, unittesting, Jira
Teams, Slack, Discord
Office 365 - Word, PPT, Excel, SharePoint, PowerBI
Agile mentality, Fast learner of new technologies and novel approaches*

Education

- 2015-2019** PhD Information Systems and Computer Engineering - Instituto Superior Técnico
Passed with distinction
Focused on improving recommendation systems computational efficiency by leveraging Fuzzy Fingerprints.
- 2012-2014** MSc Telecommunications and Informatics Engineering - Instituto Superior Técnico
Thesis grade 17
Final grade 16
Development of a recommendation system that identifies relevant keywords and maps them for each user.
- 2009-2012** BSc Computer Networks and Multimedia Engineering - Inst. Superior de Engenharia de Lisboa
Third Year Project grade 18
Final grade 15
Car stopwatch using a computer vision solution and machine learning models to identify different cars that pass by. Just a use case simple use case to show case the ML functionality.

Publications

- **Tag-Based User Fuzzy Fingerprints for Recommender Systems** *[url]*
May, 2018
- **Fuzzy fingerprints for item-based collaborative filtering** *[url]*
Nominated for Best Student Paper Award
September, 2017
- **Combining ratings and item descriptions in recommendation systems using fuzzy fingerprints** *[url]*
July, 2017

Personal interests

- **Tennis;**
- **Financial markets;**
- **Travelling;**
- **Photography.**