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# André Mourão, PhD.

ML/Search

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R&D with real world experience in implementing complex Search, Computer Vision and Machine Learning systems.

## SKILLS

<b>IR/Search</b>	Java, Python, Solr, ElasticSearch, Lucene, Hadoop, trec-eval
<b>Semantic Search</b>	Pinecone, SentenceTransformer, PyTorch
<b>Computer Vision</b>	C++, OpenCV, LibAV, LibSVM, FLANN
<b>Data Science and NLP</b>	Python, NumPy, SciPy, sklearn, SpaCy

## TECHNICAL EXPERIENCE

**Principal Search Engineer** Jun 2021 — Present  
*Searchable.ai*

- Responsible for search quality and relevance
- Implemented hybrid semantic search system that increased retrieval performance by 20%
- Used semantic search used as basis for improved Q&A performance and enable document clustering and recommendation
- Collected data and created a benchmark to enable measuring search quality

**R&D Engineer** Jan 2020 — Jun 2021  
*Portuguese Web Archive, arquivo.pt*

- Responsible for page, image search and user-facing APIs
- Increased Solr image metadata search index 90-fold, from 20 million to 1.8 billion docs

**Freelancer** Jan 2019 — Jun 2021

- **moetsi**: designed a Distributed Video Processing system for Computer Vision at scale

**Post-doc researcher at the COGNITUS Horizon 2020 project** Jan 2018 — Aug 2018  
*Nova SST*

- Created the event plotting module, enabling journalists to find the best photos and videos for news
- leveraged on social media trends using NLP and unsupervised ML

**Visiting Researcher** Apr 2015 — May 2015  
*University of Texas, Austin*

- Extraction and analysis of smartwatch activity and health data

## EDUCATION

**Ph.D. in Computer Science** 2012 — 2018  
*NOVA SST* Supervisor: Prof. João Magalhães

- Developed an architecture to improve the partitioning of very large scale (over 1 billion) image search for distributed systems.
- Benchmarked on Microsoft Azure cloud, with a difference in load of <10% between nodes.

**M.Sc. degree in Computer Science** 2010 — 2012  
*NOVA SST* Supervisor: Prof. João Magalhães

- Created a SVM model and image features for real-time facial expression recognition
- The model was successfully applied on a competitive game based solely on player's faces.

**B.Sc. degree in Computer Science** 2007 — 2012  
*NOVA SST*

## AWARDS AND DISTINCTIONS

**Arquivo.pt Award** – 2<sup>nd</sup> place for the [Revisionista.pt](#) project: Find out how news articles are edited after publication across Portuguese newsrooms 2019

**Text REtrieval Conference (TREC)** – Best *NDCG* TREC FedWeb 2013, Top 5 *P@10* TREC Clinical Decision Support 2014.

**Microsoft Azure Research Award** – Awarded \$40.000 in Microsoft Azure credit to apply on improving index partitioning for distributed search of biomedical multimodal data. 2015 — 2017

**Fraunhofer Portugal Challenge Awarding Research of Practical Utility** – 2<sup>nd</sup> place: M.Sc. category 2013