

# Profile

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Nuno A. C. Henriques

[nunoachenriques.net](https://nunoachenriques.net)

Information architect, engineer,  
scientist, and strategist towards  
responsible innovation!

**A broad experience of 20+ years** engineering search engines, information architecture, databases, Cloud, Web, and mobile integrations. Also, robotics software on GPS-based navigation, and live video face detection. Bridging state-of-the-art algorithms and techniques of data science during the PhD thesis research towards automated machine learning, explainable, and efficient predictions regarding human emotional valence. As Senior Consultant, proposing changes about data strategy and intelligence-driven architectures. Pushing for the state-of-the-art open-source fit-for-purpose parts towards the future.

**Achievements (PhD)** A novel automated machine learning (AutoML) platform efficiently predicting bespoke human emotional valence in geolocation and time context. Available as a secure Cloud service.

**Achievements (Tourism of Portugal)** (a) one order of magnitude data centre power reduction; (b) while increasing processing and storage; (c) digital transformation from paper to Web apps towards entrepreneurs; (d) coached and lead by example on pursuing more knowledge and qualifications for better delivery; (e) tourism rose several GDP percentage points during our watch.

## 1 Activity (relevant)

### Senior Manager

NTT DATA. July 2024–...

Intelligence-driven business engagement. Innovation Management, Data Intelligence, Artificial Intelligence (AI), Cloud Solutions, IT Strategy.

### Cognitive Innovation Lead

Axians. January 2022–December 2022

As an Innovation Senior Consultant, proposing mindset changes regarding data and event-driven architectures from C-level to base teams. Challenging the status quo on some approaches regarding data strategy and solutions for main clients and projects. Pushing for Cloud data platforms with the state-of-the-art open-source fit-for-purpose parts.

Pitching presales with top-level solutions (e.g., drone-based inspection of rotor blades) with data-driven architectures including computer vision and machine learning solutions.

All-things data and digital integration Architecture community lead.

Senior member of the AI and Machine Learning community contributing with solutions.

Mentoring young talents as a career and technical advisor.

Co-lead the seven full-day Sustainability workshops regarding technology solutions to cope with UN SDG.

### Co-Founder // Chief Science and Technology Officer

Unsettled. March 2021–November 2021

Provided fractional CxO services to entrepreneurs, large-size organisations, and public sector agencies.

Growing Unsettled (now Innovation by Kaizen) from zero to one and exit in nine months with success.

### Chief Artificial Intelligence Officer

MettaNoon. September 2020–September 2021

### Chief Technology Officer

Dengun. January 2021–June 2021 (November–December 2020 Head of Engineering, R&D)

### PropTech Start-up Advisor

Unlockit. August 2020–January 2021

## IT Architect and Software Engineering Manager

Tourism of Portugal. Lisbon, Portugal. April 2009–March 2011.

## 2 Academic history (relevant)

**PhD in Cognitive Science** at Universidade de Lisboa. PhD's thesis entitled "SensAI+Expanse Prediction of Emotional Valence Changes on Humans in Context by an Artificial Agent Towards Empathy" (four-year research, Approved with Distinction and Honours by unanimous decision). Advanced Studies course (first-year lectures, grade: 16/20). Lisbon, Portugal. 2012–2013, 2016–2020.

**MSc in Informatics Engineering** at FCT/NOVA. Master's thesis entitled "MovieGene: A multimedia production system using Evolutionary Computation", advisors: Luís Correia (Ciências/ULisboa) and Nuno Correia (FCT/NOVA). Two-year degree. Grade: 17/20 (first-year lectures); "Very Good" (second-year dissertation, top grade by unanimous decision). Lisbon, Portugal. 2005.

## 3 Projects (relevant)

**COVID-19 PIRA** | <https://gitlab.com/nunoachenriques/covid-19-pira> | Compute a custom ad hoc personal risk and ranking metric of the regions affected by the COVID-19 disease. This is based on the assumption that actives cases are exponentially relevant, reduced by the recovered ones, and increased by lack of detection tests, and all relative to population total. | Debian GNU/Linux; Python (**bs4**, **numpy**, **pandas**, **requests**); Apache HTTP server + uWSGI + Flask; Docker | May 2020.

**SensAI+Expanse** | <https://gitlab.com/nunoachenriques/sensei-expanse> | Towards an artificial empathetic companion to humans. Using an Android application as a PhD research tool to enable emotional valence prediction in context (space and time). The agent resources (e.g., machine learning, storage) are Cloud-expanded (private Cloud; 1-year Google Cloud Platform). | Android (Java, XML); Debian GNU/Linux; Python (**hdbscan**, **matplotlib**, **numpy**, **pandas**, **psycopg2**, **scikit-learn**, **scikit-optimize**, **tensorflow**, **xgboost**); PostgreSQL; Apache HTTP server + Flask | August 2017–.

**INTROBOT** | Patent: EP2874037A2 (2015-05-20) | A new multipurpose robot with autonomous and human operated navigation and surveillance capabilities. Mixed reality interface and algorithms to trail and track with camera feed and GPS map. | Ubuntu GNU/Linux; ROS; OpenCV; C++; Qt; JavaScript; Google Maps; GPS; Live RT video camera | August 2011–September 2012.

**TP Service Bus** | Tourism of Portugal applications' hub. Critical for the organisation to assure proper interoperability between applications' services towards an agile dashboard. | Debian GNU/Linux; PostgreSQL; Java; WSO2 ESB; REST; SOAP | July 2010–March 2011.

**Entitas** | Temporal (past, present, and future aware using PostgreSQL **infinity** special value), limitless and shared database of unique entities (companies and persons) assuring proper interoperability between applications entities and associated contacts. | Debian GNU/Linux; PostgreSQL; Java; WSO2 AS; Apache HTTP server | September 2009–March 2011 (Tourism of Portugal), 2014–2015 (IMM).

**TP IT Architecture and Engineering** | Assuring proper governance and interoperability between applications. Department portfolio encompass tens of projects and several platforms including OutSystems Agile, Oracle IAM, WSO2 SOA. Re-engineering the data centre and applications technology architecture to assure energy efficient use with less resources' usage footprint. | Blades; Virtual servers; Central storage; Fault tolerance; Documentation management; Debian GNU/Linux; Nagios; ... | April 2009–March 2011.