

# Curriculum Vitae

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**Current position:** Assistant Professor @ **DEI, IST**, Universidade de Lisboa  
Integrated Researcher @ **IDSS, INESC-ID**, Lisboa

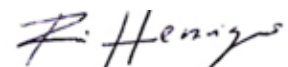
**Previous positions:** Head of the AI area @ **Tekever** [9/2017-1/2018]  
PosDoc Researcher @ **Kyushu University**, Japan [6/2017-8/2017]  
PosDoc Researcher @ **IGC** (Instituto Gulbenkian de Ciências) [2/2016-2/2017]  
Business Analyst @ **McKinsey & Company** [8/2010-10/2011]  
Teaching Assistant @ **DEI, IST**, Univ. Lisboa [8/2009-6/2017]  
President @ **NEIIST** (Núcleo Est. Eng. Informática, IST) [6/2009-8/2010]  
Director @ **GCE** (Grupo de Contacto com Empresas, IST) [1/2007-6/2009]

## Introduction (*highlights*)

My passion towards scientific research, together with a congenial interest in interpersonal dynamics and health, paved my choice and commitment towards a scientific career of excellence. Amidst my continuous commitment to invite feedback and address blockages to growth, I saw my profile receiving wide recognition:

- recognised R&D at multiple levels, including the breadth and nature of my publication and dissemination record (+100 publications, amongst +40 in highest quality Q1 journals in my field since 2021);
- two career awards, multiple distinctions, and honorary scientific responsibilities;
- supervision record of +60 students as principal supervisor, including the successful completion of over 30 MSc thesis and 10 PhDs (2 concluded, 4 finishing, 2 at CAT milestone);
- scientific autonomy, coordinating a large R&D team (+10 excelling young researchers) within the IDSS unit at INESC-ID, along with a rich network of national and international collaborations;
- successful coordination of large-scale interdisciplinary R&D projects as PI and institute responsible;
- entrustment by IST with the creation and coordination of pivotal courses, inc. Machine Learning, Data Science, Health Informatics, Neural Information Retrieval and massive online courses on Multi-Omics;
- unique interdisciplinary profile, solidly grounded on AI with extensive expertise on biomedicine;
- ground-breaking and creative quality of research attested by the diversity, depth, and disruptive nature of scientific contributions, including pioneering AI-driven research on: glycoproteomic-informed immunotherapies, fMRI synthesis from EEG for ambulatory diagnostics, post-surgical risk-aware prehab, neuropsychiatric prognostication, or responsible reconciliation of psychotropic drugs in Portugal;
- ability to create paradigm shifts in R&D, well attested by the interdisciplinary premiered ILU project;
- wide exposure to industry innovation projects in the health sector and unique team leadership and management skills as an analyst at McKinsey and director of the AI department at Tekever company;
- stable stage of academic career and personal life, granting full capacity to execute large-scale initiatives.

Lisbon, December 2024



## Prizes and Awards

- **Best Senior Researcher Award** ascribed by INESC-ID, 2022
- **TRA Visions Award** and Prize for visionary R&D on Multimodal Intelligent Mobility by **EU**, 2022
- **IJCAI Distinguished PC Member Diploma** (top 3%) by IJCAI (lead AI conference), 2022
- Several distinctions to the supervisees, including *ULisboa-RedeMov 2021 Best Thesis* award (Francisco Neves) and *ULisboa-RedeMov 2022 Best Thesis* award (João Aparício), 2019–2022
- **Best Young Researcher Award** ascribed by INESC-ID, 2020
- **Best 2019 Paper** award ascribed by FCUL, Universidade de Lisboa, 2019
- **Honorary reviewer** for Pattern Recognition (completion of +30 reviews), Elsevier, 2019
- **Best PhD Research Award** ascribed by INESC-ID, 2016
- Doctoral research with **Distinction and Honor** by IST, Universidade de Lisboa 2016
- Three research articles nominated as **Best Papers** in HICSS, ICIS and PhyCS, 2012–2014
- *Best Student Award* by Caixa Geral de Depósitos (**CGD**) and Universidade de Lisboa 2010
- **Pluim Award** for the best contribution to Revolutionary ICT-infrastructure, **TU Delft**, 2010
- *Merit Distinctions* ascribed by Universidade de Lisboa in 2007, 2008 and 2009
- *Merit Distinction* ascribed in 2004 and 2005 solemn sessions of Madeira de Torres

**Research Interests:** Machine Learning; AI in Neurology and Psychiatry; Multi-Omics Data Analysis for Therapeutics; Statistical Foundations of Pattern Discovery; Learning from Complex Data Structures

**Education:** PhD in Comp. Science & Eng. (CSE), 2016 @ Técnico; MSc in CSE, 2010 @ Técnico / TU Delft

**Fellowship grants** (*selected*): PosDoc @ Kyushu Univ. (690941 RISE-BIRDS), sabbatical @ FPU/NTNU (1018P.05576), PosDoc @ IGC (IF/01333/2013/CP1204/CT0001), PhD @ IST-ID (BD/75924/2011)

**Institutional Collaborations** (*selected*):

- *National* (interdisciplinary): IMM (M.Carvalho), LNEC (E.Arsénio), SPP (L.Madeira), INSA (G.Queiroz), IPO (L.Santos), LAQV (R.Costa), IGC (C.Chaouiya), NOVA (M.Lopes), iBEB (D.Prata), SPMS (V.Lima)
- *International* (interdisciplinary): FPS, Andalucia (J. Dopazo); Kyushu University, Japan (H. Bannai); BBG, Bologna (P.L. Martelli); NTNU, Norway (E. Tedeschi); KTH, Stockholm (I. Leite); TU Delft (J. Gonçalves); RISE SICS (R. Pimentel); Karolinska, Stockholm (N. Kiani); CIPF, Valencia (F. Garcia)

**Press:** Multiple appearances on **Mass Media**, including Público, DN, Agência Lusa press, SIC (*selected*)

## Industry

- Technical Advisor (first opinion) to GED Ventures [2023–]
  - Support investment decisions on technological start-ups and companies with AI solutions
- Head of AI and Data Science area @ **TEKEVER** [8/2017–2/2018]
  - Multi-disciplinary research on deep space projects
  - Advanced brain patterning analysis for interface control and virtual navigation
  - Development of AI area: recruitment, mentoring and strategic vision
- Business and IT analyst in 9 projects @ **McKinsey & Company** [8/2010–10/2011]
  - *Telecommunications*: IT architecture analysis, corporate strategy, positioning in partnerships
  - *Media*: potential of 15 African markets (macro-economy and demand, competition, M&A, entry models)
  - *Banking*: revision of the strategic positioning near organizations and international banks
  - *Healthcare*: diagnostic and design of systems and processes to support the integration of clinics
  - *Energy* (distribution): specifications design and contractual support to implement smart-grids
  - *Energy* (retail): repositioning of a mark, loyalty programs
  - *Industrial processes*: study of the synergic potential of 20 engineering organizations for a M&A
  - *Telecommunications* (international): fraud reduction, stock management, reporting, tariff design
- Analyst @ Department for Studies and Strategy, **Millennium BCP** (Corporate Center) [2008]

# 1 Scientific activity

**Publication Record** and Scientific Recognition (*highlights*, full list and details in section 5):

- **+50 publications in Q1 ISI/SJR International Journals (40 publications since 2021)**, selected:
  - machine learning: *Pattern Recognition* (#5), *ACM CSUR* (#2), *Data Mining and Know. Disc.* (#4)
  - biomedical informatics: *AI in Medicine*, *J-BHI*, *BMC Bioinf.*, *CSBJ*, *JBI*, *CMPB*, *CBM*
  - medical specialists: *JMIR*, *Cancers*, *Frontiers in Physiology*, *Toxins*, others
  - cross-disciplinary domains: *Cities*, *IEEE T-ITS*, *Nature Scientific Reports*, *TCCS*, *Knowledge-Based Systems*, *PLoS ONE*, *ETRR*, *Water*, *EPB*, *Ren. Sust. Energy Reviewes*, *TRIP*
- **>100 publications** (>40 publications in high-visibility conferences), **4 awarded papers**
- **i10-index = 40; h-index = 20**; first author works with ~1000 cites (statistics from Google Scholar, 12/2024)
- **R&D autonomy**: +80 articles without PhD supervisor (+60 since 2021)
  - 5 selected conf. articles without PhD supervisor, **A-CORE** rank (article year): 10.1137/1.9781611976700.37, 10.1145/3448891.3448949, 10.1007/978-3-030-45439-5\_19, 10.1007/978-3-030-22244-4\_17, 10.1109/HICSS.2014.322

**Project Coordination and Fund Attraction** (*highlights*, details in Section 4):

- *Principal Investigator* of **ILU** project (DSAIPA/DS/0111/2018), 300k Eur [2018–2022]
  - large-scale high-impact initiative with CML, LNEC, CARRIS, METRO on *Context-aware Mobility*
- *Coordinator* at INESC-ID of **WISDOM** (DSAIPA/DS/0089/2018) and **FRAIL** (2024.07266.IACDC/2024)
- *Coordination* of institutional *Contracts*, including Consulting and R&D Service Provision to **LNEC** on AI
- Active participation in *EU projects*, inc. **ADMIRAL** (101104163) [2023–2026] and **InnoCyPES** (956433) [2021–2024], and INESC-ID coordinator of successful proposals, inc. **DATAWAYS** (101202551) [2024]
- *Project Task Responsible* (selected): **Data2Help**, **IPOscore**, **Neuroclinomics2**, **LAIfeBlood**, **MATISSE** [2016–]

**Supervision Record** and Contribute to Young Researchers' Career (*highlights*, details in Section 6):

- **>10 PhD students** (7 as main supervisor), including 2 successfully concluded (D. Calhas, D. Soares), 4 finishing (J.Aparício, M.Silva, H.Shao, L.Alexandre), 2 at CAT milestone (D.Gonçalves, S.Cerqueira)
- **>30 MSc theses successfully concluded** (2018–2024) and >10 in progress
- concluded supervision of 3 international PostDocs (>1 year fellowships) with current Professor positions

**Open Research** (Knowledge Transfer): **39** publicly available **software packages** provided under GNU Public Licenses (available in webpage, listings in section 5) for full transparency and reproducibility

**Invited Talks** (keynotes) and Public Lectures:

- **Wide-announced invited talks** including: *Advances on Explainable AI from Description to Prediction* @ NTNU, Norway [12/2024], *Intelligent Health Systems: Breakthroughs at INESC-ID* @ Encontro Ciência [7/2024], *IA, Saúde e Pegada Ecológica* @ Aula Magna [6/2024], *Meeting AI Potentials for Human Health* @ Fraunhofer Open Sessions [6/2023], *AI in Psychiatry: Prospects for Prodormal Psychosis* @ XV National Congress of Psychiatry [11/2022], *Cross-Tissue Regulatory Links: Myths and Opportunities* @ Fundacion Progreso y Salud [7/2021], *Trustworthy AI* @ Kyushu University [8/2017]
- **Massive lectures**: +300 students/year in Machine Learning, +200 students/year in AASMA
- Creation-and-tutoring of massive **online open courses** (reach up to 500 students per MOOC)
- Invited speaker at: i) **institutional events** by IPO [11/2019 @ Porto], RISE-SICS [3/2019, Sweden], Rensselaer Polytechnic Institute [4/2015, Troy, US]; and **recorded public events** by Fundação para a Ciência e Tecnologia [10/2018 @ INE, 1/2020 @ FCT] and Câmara Municipal de Lisboa (several)
- **Roundtable moderator** at multiple academic events, e.g. *Biotech Breakthroughs* @ VIII Semana da Bioengenharia [4/2023], *Serviços Digitais à Sociedade* @ Jornadas da Assemb. Escola, IST [9/2022]
- **Speaker** in *high-visibility conferences* (selected): **MobiQuitous** @ Japan/web [12/2020], **Intelligent Tutoring Systems** @ Kingston, Jamaica [6/2019], **HICSS** @ Waikoloa, Hawaii [1/2014], **SDM** @ Austin, US [4/2013], **AAMAS** @ Valencia, Spain [9/2012], **HIS** @ Beijing, [1/2012], **BPM** @ NY, US [9/2010]

## Additional Scientific Roles (*selected*)

- *Scientific Evaluation Committee (CAT)* as relator/external vogal for **15 PhDs**
- *Scientific Evaluation Committee* of **>80 Master theses** (excludes presidencies & supervisions)
- **Spokesperson** for the Work Group on *Agro, Food and Forestry* @ **INESC-Hub**, EU initiatives
- Periodic **Reviewer** for **>20 Q1 journals** (ISI/SJR) on *Computer Science* (**+100 reviews**), including: Pattern Recognition (Elsevier), ACM TOMM, Knowledge-based Systems, Data Mining Know. Discovery, IEEE Trans. Evolutionary Computation, AI Review, Info. Sciences, JSCS, Constraints (Springer), Comp. Science Review, Interaction Studies, Soft Computing (Springer), Frontiers in Big Data, Info. Fusion, IEEE Access, IEEE T-ITS, AIHC, Machine Learning, Journal of Big Data
- Periodic **Reviewer** for **>10 Q1 journals** (ISI/SJR) on *Biomedicine*, inc. Nature Sci. Reports, Bioinf. (Oxford), BMC Bioinf., Arch. of Gerontology and Geriatrics, HIS, IEEE TCBM, Brief. in Bioinf.,
- Active role in **summer school organization** (*selected*): KIC IE Bootcamp; DELIX; Oceans of Energy
- **PC** @ IJCAI 2019 (28th edition), 2020 (29th edition), 2021 (30th edition), 2022 (31th edition)
- **PC** for key international conferences: BIODDD, TRA, WACV, PACIS, DS, ICMLA, CPAIOR, ISD

## 2 Teaching activity

### Course Creation and Coordination Activity:

- **Coordinator/Responsible** in **Large-scale** Courses:
  - *Machine Learning* (3 editions with **~300 students**/edition) [2021–2024]
  - *Autonomous Agents and Multi-Agent Systems* (2 editions, **~200 students**/edition) [2018–2020]
- **Coordinator/Responsible** of *Information Retrieval* [since 2020] and *Health Informatics* [2019–20]
- **Creator/Proponent of 3 curricular units**: *Machine Learning* (LEIC, MEBiom, MinIA @ Técnico), *Data Science* (MEIC @ Técnico), *DASH Unsupervised Analysis* (Técnico+)
- Tutor and Content **Developer of Massive Open Online courses** (MOOCs) Técnico
  - Epigenetics: Volume II (3 editions), +250 students; and Volume I (4 editions), +500 students;
- Wide lecturing profile: **+15 distinct courses** at IST, inc. *Software Architectures, Analysis and Synthesis of Algorithms, Bioinformatics, Programming Foundations, Software Eng., IT Project Management*

### Content Creation:

- MOOCs on the *Epigenetics of Human Health* (content, production, assessments)
- *Machine Learning* (**1st** edition): all lectures, practicals, and exercise compendiums (jointly with A. Wischert)
- *Data Science* (**1st** edition): 12 lectures, 11 lab guides, tutorials in R and Python
- *Information Retrieval*: neural IR and LLMs, deep restructure of all contents and lectures
- *DASH: Unsupervised Analysis* (**1st** edition): all lectures and labs (residual synergies with previous courses)
- *Autonomous Agents and MAS*: redesign, new guides, transition from NetLOGO to Python
- *Health Informatics*: new modules, including deep medical imaging, precision medicine

### Complementary:

- **Fact: all lectured courses** from 2019 to 2024 (first semester) as **coordinator**
- Contributions to other departments, including: i) active lecturing (e.g., *Introduction to Biomedical Eng., Functional Genomics*), and ii) supervision of several projects for the Bioeng. and Physics departments

### Pedagogy (*brief notes*):

- Recognized **pedagogic excellence** in lecturing activities
  - all **QUCs** higher than 8 (scale up to 9), including first editions and large-scale lecturing
- Commitment highlighted by **initiatives** at the lectured courses, e.g. organization of **study visits** in *Health Informatics* to ACeS Lisboa Norte, Hospital da Luz, Fund. Champalimaud, JLF Lab
- Commitment to continuously improve teaching standards since 2009 (*inviting feedback, year supervision* by Sofia Sá to establish active learning attitudes and tools), abiding by *highest pedagogic standards*

### 3 Management activity

1. Departmental **Mobility Coordinator** @ DEI, Técnico [since 1/2023]
  - supervision of the academic affairs (study plan elaboration, incident resolution) of approximately 300 incoming mobility students (+50 destinations) and 200 outgoing mobility students;
  - creation and celebration of protocols and ongoing revision of agreements, including Double Degrees, Erasmus+, SMILE, and diverse international country/institute-specific agreements;
  - coordination of all mobility-related initiatives at DEI, including bilateral relations with international institutes and supervision of internship, staff and teaching mobilities.
2. **Executive Coordinator** of the *IDSS R&D scientific area* @ INESC-ID [since 5/2024]
  - full breath of managerial activities of the largest scientific group at INESC-ID (+30 professors, +60 researchers) including financial, legal, logistic, and strategic support
3. Nominated **Coordinator** of the **MSc Data Science and Engineering** @ DEI, Técnico [2025–]
4. Elected **Executive Coordinator** of the **Artificial Intelligence** scientific area @ DEI, Técnico [2025–]
5. **Coordinator** of the *Information Systems* specialization area @ MEIC, DEI, Técnico [2021–]
6. *Scientific Evaluation Board* of national projects for Agência Nacional de Inovação (**ANI**) @ Técnico
7. *Scientific Evaluation Board* of international R&D project grants, including Austrian Science Fund (**FWF**) and Czech Science Foundation (**GACR**) [2019–]
8. *INESC-ID Task Force* Active Contributor to prepare the *Evaluation and Multi-Annual Financing of R&D Units* by Fundação para a Ciência e Tecnologia (FCT) @ INESC-ID [2023–2024]
9. **Electoral Committee** Member of INESC-ID (presidency, management and scientific council boards) at four distinct elections (2019, 2021, 2023 and 2024) @ INESC-ID
10. Member of the Evaluation Committee for **BSc Degree Recognitions** @ DEI/APG, Técnico [2023–]
11. Member of the Evaluation Committee for **MSc Degree Recognitions** @ DEI/APG, Técnico [2023–]
12. Active Contributor to the creation of the *Health and Medical Data Analytics* (HMDA) MSc programme, a partnership between EIT Health, Univ. de Lisboa (UL), Universidad Politécnica de Madrid (UPM), Université Grenoble Alpes (UGA) and Friedrich-Alexander Universität (FAU) @ Técnico [2019–2023]
13. Organizer Member (curriculum design, creation of tutorials, lecturing, data management, website support) of two international summer schools promoted by EIT InnoEnergy @ Técnico/EIT InnoEnergy
  - KIC IE bootcamp (<https://tecnico.ulisboa.pt/pt/tag/innoenergy/>) [2018]
  - *Oceans of Energy Innovation School* (<http://web.ist.utl.pt/rmch/oceansofenergy/>) [2019]
14. Active role in embracing and promotion of educational reforms at Técnico
  - preparation and launching of massive online courses @ MOOC Técnico since 2018
  - lecturing of project-oriented courses to engineers in the industry @ Técnico+ since 2020
15. Involvement with the student community:
  - recurrent speaker at meetups/events, including *Tudo sobre MEIC* or *Lisbon Kaggle Meetups* [2018–]
  - founder of *Data scientists at Técnico* aiming to provide a safe and didactic environment for the study and practice of Data Science grounded on tackling Kaggle challenges [2019–2021]
16. Positions in student community structures:
  - **elder consultant** to NEIIST (*Núcleo Estudantil de Eng. Informática do IST*) [since 2018]
  - **president** of NEEIST (*Núcleo Estudantil de Eng. Informática do IST*) @ Técnico [2010]
  - **director** of GCE (Grupo de Contacto com Empresas) @ Técnico [2007–2009]
  - yearly **delegate** of LEIC @ DEI, Técnico [2006–2008]