

## Bruno Emanuel da Graça Martins

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### A. Professional Preparation

University of Lisbon	Computer Sci. and Engineering	M.Sc., 2004
University of Lisbon	Computer Sci. and Engineering	Ph.D., 2005-2009

### B. Appointments

Associate Professor in the Department of Electrical and Computer Engineering at IST, 2021 – present.

Assistant Professor in the Department of Computer Science and Engineering at IST, 2009 – 2021.

Researcher at the IDSS Lab of INESC-ID, a laboratory associated to IST, 2008 – present.

### C. Research Outputs

An updated list of publications is available at [www.informatik.uni-trier.de/~ley/pers/hd/m/Martins: Bruno](http://www.informatik.uni-trier.de/~ley/pers/hd/m/Martins: Bruno).

According to the Google Scholar profile, Bruno's current **h-index** is **31** and the **i10-index** is **78**.

#### Ten Significant Publications (*International Journals*)

- [1] Rui Santos, Patricia Murrieta-Flores and Bruno Martins (2017) “*Combining Multiple String Similarity Metrics for Effective Toponym Matching*,” International Journal of Digital Earth, Taylor & Francis. DOI=10.1080/17538947.2017.1371253 (Journal H-Index of 22 and Q1 in Scimago)
- [2] Rui Santos, Patricia Murrieta-Flores, Pável Calado and Bruno Martins (2018) “*Toponym Matching Through Deep Neural Networks*”, International Journal of Geographical Information Science, Taylor & Francis. DOI=10.1080/13658816.2017.1390119 (Journal H-Index of 85 and Q1 in Scimago)
- [3] Fernando Melo and Bruno Martins (2017) “*Automated Geocoding of Textual Documents: A Survey of Current Approaches*,” Transactions in GIS, Wiley. DOI=10.1111/tgis.12212 (Journal H-Index of 46 and Q1 in Scimago)
- [4] Luís Borges, Bruno Martins, and Pavel Calado (2019) “*Combining Similarity Features and Deep Representation Learning for Stance Detection in the Context of Checking Fake News*,” ACM Journal of Data and Information Quality, ACM. DOI= (Journal H-Index of 18 and Q2 in Scimago)
- [5] Francisco Duarte, Bruno Martins, Cátia Sousa Pinto and Mário J. Silva (2018) “*Deep Neural Models for ICD-10 Coding of Death Certificates and Autopsy Reports in Free-Text*,” Journal of Biomedical Informatics, Elsevier. DOI=10.1016/j.jbi.2018.02.011 (Journal H-Index of 71 and Q1 in Scimago)
- [6] João Monteiro, Bruno Martins, Miguel Costa and João M. Pires (2021) “*Geospatial Data Disaggregation Through Self-Trained Encoder-Decoder Convolutional Models*,” ISPRS International Journal of Geo-Information, MDPI. DOI=10.3390/ijgi10090619 (Journal H-Index of 43 and Q1 in Scimago)
- [7] Eduardo Cunha and Bruno Martins (2014) “*Using One-Class Classifiers and Multiple Kernel Learning for Defining Imprecise Geographic Regions*,” International Journal of Geographical Information Science, Taylor & Francis. DOI=10.1080/13658816.2014.916040 (Journal H-Index of 85 and Q1 in Scimago)
- [8] João Santos, Ivo Anastácio and Bruno Martins (2014) “*Using Machine Learning Methods for Disambiguating Place References in Textual Documents*,” GeoJournal, Springer. DOI=10.1007/s10708-014-9553-y (Journal H-Index of 47 and Q1 in Scimago)
- [9] Mário J. Silva, Bruno Martins, Marcirio Keys, Nuno Cardoso, Ana Paula Alfonso (2006) “*Adding Geographic Scopes to Web Resources*,” Computers, Environment and Urban Systems, Volume 30, Number 4, DOI=10.1016/j.compenvurbsys.2005.08.003 (Journal H-Index of 65 and Q1 in Scimago)
- [10] Miguel Won, Patricia Murrieta-Flores and Bruno Martins (2018) “*Ensemble NER: Evaluating Named Entity Recognition Tools in the Identification of Place Names in Historical Corpora*,” Frontiers in Digital Humanities, Frontiers. DOI=10.3389/fdigh.2018.00002

## D. Synergistic Activities

### Interdisciplinary Research

- Principal Investigator in the DETECT (DSAIPA/DS/0133/2020), SInteliGIS (TDC/EIA-EIA/109840/2009), KD-LBSN (EXPL/EEI-ESS/0427/2013), and MIMU (PTDC/CCI-CIF/32607/2017) projects, nationally funded by FCT and concerning the processing of multi-modal and/or geospatial information from non-structured sources (e.g., text documents, geo-referenced photos, volunteered geographical information, etc.) in a variety of applications.
- National Coordinator of the European project MOOD (H2020-SC1-BHC-2018-2020 874850), which concerns monitoring outbreak events for disease surveillance in a data science context, contributing with expertise in text mining and geospatial analysis methods.
- National Coordinator of the T-AP Digging into Data Project entitled “*Digging into Early Colonial Mexico*”, which concerns the use of computational methodologies to study documental sources for the colonial history of America.
- Participating researcher in several other national and international research projects:
  - National coordinator of CYTED research network on *Asistentes Inteligentes para las Infraestructuras de Datos Espaciales* (IDEAIS).
  - RRP project C645008882-00000055 (Center for Responsible AI).
  - FCT/CMU cooperation project CMUP-ERI/TIC/0046/2014 (GoLocal).
  - European project COST ACTION IS1310 (Reassembling the Republic of Letters).
  - FCT/UT-Austin cooperation project UTAP-EXPL/EEI-ESS/0031/2014 (EXPRESS).
  - FCT/UT-Austin cooperation project UTA-Est/MAI/0006/2009 (REACTION).
  - European project CIP-ICT-PSP.2009.2.4 (EuDML).
  - European project ECP-2005-CULT-038042 (DIGMAP).
  - Co-PI of national FCT project POCI/01/0145/FEDER/031460 (DARGMINTS).
  - Nationally funded FCT research projects POSI-SRI-47071-2002 (GREASE), POSI-SRI-47071-2002 (GREASE-II), EXCL/EEI-ESS/0257/2012 (DATASTORM), PTDC/EEI-SCR/1743/2014 (SATURN), PTDC/CTA-OHR/29360/2017 (RiverCure), PTDC/SOC-SOC/29207/2017 (REP), PTDC/CPO-CPO/28495/2017 (HATE), DSAIPA/DS/0026/2019 (MATISSE), and DSAIPA/DS/0102/2019 (HEALTI.CO).

### Consulting and Technology Transfer Projects

- Scientific coordinator in national project funded by *Imprensa Nacional Casa da Moeda*, concerned with the development of specialized retrieval services for legal documents, in the context of the *Diário da República Eletrónico*, i.e. the official gazette of Portugal.
- Consulting and/or participating researcher in several technology transfer projects involving INESC-ID together with other Portuguese and foreign institutions.
  - Consultant in technology transfer projects with a variety private companies (e.g., [www.exago.com](http://www.exago.com), [www.warwickanalytics.com](http://www.warwickanalytics.com), [www.schreder.com](http://www.schreder.com), [www.lusa.pt](http://www.lusa.pt), [www.linkconsulting.com](http://www.linkconsulting.com), or [www.luzsaude.pt/pt/learning-health](http://www.luzsaude.pt/pt/learning-health)), concerned with applied machine learning and practical applications for text mining and information retrieval methods.

### Community Activities, Article Reviewing, and Program Committee Membership

- Co-organizer of the ACM SIGSPATIAL Workshop on Geospatial Humanities (5 editions), and also of the ACM SIGSPATIAL Workshop on GeoAI (4 editions), both regularly co-located with the ACM SIGSPATIAL conference. Guest co-editor of journal special issues associated to the ACM SIGSPATIAL workshops (e.g., special issue on Geospatial Humanities at the International Journal of Geographical Information Science).
- Co-organizer of the 2021 Spatial Data Science Symposium (SDSS), and guest co-editor of the associated journal special issue.
- Co-organizer of the track on Text Mining and Applications (TeMA) at the 2017 EPIA Conference on Artificial Intelligence, and guest co-editor of the associated special issue at the MDPI Information Journal.

- Co-organizer in the 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> editions of the Location and the Web (LocWeb) series of workshops, which were respectively co-located at CIKM'14, WWW'15 and WWW'16.
- Member of the local organization committees for EMNLP'15, EAMT'20, ECIR'20, and EPIA'22.
- Member of the organization committee for the 2016, 2017, 2018, 2019, 2020, 2021, 2022, and 2023 editions of the Lisbon Machine Learning Summer School (LxMLS).
- Program committee member in international conferences such as CIKM, EMNLP, ACL, IJCAI, AAAI, ECIR, JCDL/TPDL, ACM KDD, ACM SIGSPATIAL or ACM SAC, as well as in international series of workshops, such as the ACM Workshop on Geographic Information Retrieval (GIR).
- Reviewer for international journals such as Information Processing & Management, IEEE Transactions in Knowledge and Data Engineering, Journal of Natural Language Engineering, PLOS One, Journal of Spatial Science, International Journal of Geographical Information Science, ACM Transactions on Spatial Algorithms and Systems, Information Systems, Artificial Intelligence, International Journal on Digital Libraries, Distributed and Parallel Databases, Expert Systems, Transactions in GIS, or Cognitive Computation.
- Project reviewer for the Swiss National Science Foundation, and for the Dutch Research Council.

### Teaching, Advising, and Mentoring

- Teaching several courses at IST/UL, at the graduate (M.Sc. and Ph.D.) and undergraduate levels and also in professional post-graduation courses organized by IST/UL (e.g., POSI, SISE and MISE), related to Databases and Data Management, Information Retrieval, Information Extraction, Biomedical Informatics, and Introduction to Research.
- Received teaching awards and nominations for teaching and advising.
- Advisor to over 100 students in their M.Sc. theses and published with more than thirty of these undergraduate students.
- Co-advisor to a Ph.D. student (*Tiago Gonçalves*, finished in 2017), and currently advising 8 other Ph.D. students at IST.
- Co-advisor to two post-doctoral researchers at INESC-ID (*Miguel Won* and *Joel Silva*).

### University Management Activities

- Co-coordinator of the M.Sc. degree in Engineering and Data Science from IST/UL.
- Co-proponent of a specialization on Information and Language Technologies, currently offered to IST students of the M.Sc. in Computer Engineering.
- Member of the pedagogical committee of the 1<sup>st</sup> edition of the Masters in Information and Enterprise Systems (MISE), offered in partnership between IST and Universidade Aberta.
- Representative of the Information Systems area in the scientific-pedagogical council of the Department of Computer Science and Engineering from IST (2011-2013).

### E. Collaborators, Advisors, and Advisees

**Collaborators:** Patricia Murrieta-Flores (Univ. of Lancaster), Isabel Cruz (Univ. of Illinois at Chicago), João M. Pires (FCT/UNL), Jacinto Estima (INESC-ID), Pável Calado (IST/UL), Ana P. Afonso (FCUL/UL), Francisco Couto (FCUL/UL), Jamie Callan (CMU), José Borbinha (IST/UL), João Magalhães (FCT/UNL), Desmond Elliott (University of Copenhagen).

**Advisors:** Mário J. Silva (Ph.D. and M.Sc. advisor).

**Previous Ph.D Students:** Tiago Gonçalves (FCUL/UL and LASIGE, together with Ana P. Afonso), and João Monteiro (Thales, IST/INESC-ID, together with João M. Pires).

**Current Ph.D. Advisees:** Rita Ramos (IST/INESC-ID, together with Desmond Elliott), Luís Borges (IST/INESC-ID and CMU-PT, together with Jamie Callan), Gonçalo Raposo (IST/INESC-ID, together with Luísa Coheur), Isabel Coutinho (IST/INESC-ID), João Coelho (IST/INESC-ID and CMU-PT, together with Jamie Callan and João Magalhães), João Silva (IST/INESC-ID, together with Devis Tuia and João Magalhães), and Artur Guimarães (IST/INESC-ID, together with João Magalhães).