

# MARIANA S. C. ALMEIDA

Global Lead Scientists, [Zendesk](#)



## PERSONAL DATA

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PLACE AND DATE OF BIRTH: Lisbon, Portugal | 30 May 1982  
PHONE: +351 96 542 71 43  
EMAIL: [mariana.almeida@zendesk.com](mailto:mariana.almeida@zendesk.com)  
LINKEDIN: <https://www.linkedin.com/in/marianaalmeida/>  
GOOGLE SCHOLAR: [https://scholar.google.com/citations?user=1\\_U5zugAAAAJ&hl=en](https://scholar.google.com/citations?user=1_U5zugAAAAJ&hl=en)

## EDUCATION

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OCT. 2010 | PhD in ELECTRICAL AND COMPUTER ENGINEERING, [Instituto Superior Técnico \(IST\)](#), Universidade Técnica de Lisboa (UTL), Lisbon, Portugal  
Thesis: “Blind Separation and Blind Deblurring of Natural Images”  
Advisor: Prof. [Luís BORGES DE ALMEIDA](#)

OCT. 2005 | 5 year degree in ELECTRICAL AND COMPUTER ENGINEERING, [Instituto Superior Técnico \(IST\)](#), Universidade Técnica de Lisboa (UTL), Lisbon, Portugal  
Final Project: “Extensions to Denoising Source Separation”  
Advisors: Dr. [Jaakko SÄRELÄ](#) (HUT, now [AALTO](#)) and Prof. [Luís BORGES DE ALMEIDA](#) (IST)

## WORK EXPERIENCE

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### Industry

*Current*  
OCT. 2023 | POSITION: *Global Lead Scientist, Research and Applications*  
PLACE: [ZENDESK](#), Lisbon, Portugal  
RESEARCH AREAS: Machine Learning and Natural Language Processing (NLP) applied to Customer Support;

*Sep. 2023*  
AUG. 2021 | POSITION: *Engineering Manager, Machine Learning*  
PLACE: [ZENDESK](#), Lisbon, Portugal

*Aug. 2021*  
DEC. 2019 | POSITION: *Head of Research*  
PLACE: [Cleverly.ai](#) (acq. by [Zendesk](#)) Lisbon, Portugal  
RESEARCH AREAS: Machine Learning and NLP applied to Customer Support

*Nov. 2019*  
SEPT. 2017 | POSITION: *Senior Data Scientist*  
PLACE: [FEEDZAI](#), Lisbon, Portugal  
RESEARCH AREAS: Counterfactual estimation, deep fraud architectures

*July 2017*  
JULY 2013 | POSITION: *Research Scientist*  
PLACE: [PRIBERAM LABS](#), [PRIBERAM](#), Lisbon, Portugal  
RESEARCH AREAS: Machine Learning and Natural Language Processing (NLP)

## Academia

JULY 2013	POSITION: <i>Postdoctoral Researcher</i>
OCT. 2010	PLACE: <a href="#">INSTITUTO DE TELECOMUNICAÇÕES</a> , Lisbon, Portugal SUPERVISOR: <a href="#">Prof. Mário A. T. FIGUEIREDO</a> RESEARCH AREAS: Image Processing and Optimization
OCT. 2010	POSITION: <i>PhD Student</i>
OCT. 2005	PLACE: <a href="#">INSTITUTO DE TELECOMUNICAÇÕES</a> , Lisbon, Portugal SUPERVISOR: <a href="#">Prof. Luís B. ALMEIDA</a> RESEARCH AREAS: Nonlinear Separation and Blind Image Deburring
DEC. 2006	POSITIONS: <i>Inter, as PhD and Erasmus student</i>
SEP. 2006	PLACE (PHD): <a href="#">COMPUTATIONAL NEUROENGINEERING LABORATORY (CNEL)</a> ; <a href="#">University of Florida (UF)</a> , Florida, USA PLACE (ERASMUS): <a href="#">NEURAL NETWORKS RESEARCH CENTER</a> , <a href="#">HELSINKI UNIVERSITY OF TECHNOLOGY (HUT)</a> , <a href="#">NOW AALTO</a> , Helsinki, Finland
JULY 2005	SUPERVISORS: <a href="#">Prof. José C. PRÍNCIPE</a> ; <a href="#">Dr. Jaakko SÄRELÄ</a> and <a href="#">Dr. Harri VALPOLA</a>
FEB. 2005	RESEARCH AREAS: Source Separation and Information Theory

## Teaching and Mentoring

2010-NOW	POSITION: <i>Advisor and Co-Advisor</i> SUPERVISED: +10 M. Sc. thesis from <a href="#">IST</a> and <a href="#">NOVA-IMS</a> and +15 internships WHERE: while at <a href="#">ZENDESK</a> , <a href="#">CLEVERLY</a> , <a href="#">FEEDZAI</a> , <a href="#">PRIBERAM LABS</a> , <a href="#">IT</a> , <a href="#">IST</a> AREAS: Image processing, Machine Learning, NLP, Customer Support applications and Fraud Prevention.
2004-2011	POSITION: <i>Invited Assistant Professor and Teaching Assistant</i> PLACES: <a href="#">ISCTE-IUL</a> and <a href="#">IST</a> , Lisbon, Portugal COURSES: “ <a href="#">Informática de Gestão</a> ”, “ <a href="#">Análise Matemática II</a> ” and “ <a href="#">Algebra Linear</a> ”

## Other Activities

2015-NOW	CO-ORGANIZER of the “ <a href="#">Lisbon Machine Learning School</a> ” ( <a href="#">LxMLS</a> ) 2016 - 2025
2013-2017	CO-ORGANIZER of <a href="#">Priberam Machine Learning Lunch Seminars</a> , at <a href="#">IST</a>

## HONORS AND AWARDS

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2011	PRÉMIO CIENTÍFICO IBM 2010; honorable mention. Title: “ <a href="#">Focagem Cega de Imagens Naturais</a> ”.
2005	<a href="#">PRÉMIO PROF. LUÍS VIDIGAL (2004/2005)</a> . Title: “ <a href="#">Extensions to Denoising Source Separation</a> ”.

## SCIENTIFIC WORK

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PUBLICATIONS: Author of 30 publications in international journals and top international conferences (IEEE-ICIP, EMNLP, ACL, EACL, COLING, etc.) with peer review; 8 patents (4 granted and 4 pending); and other communications.

PUBLICATION AREAS: LLMs and agentic evaluation, explainability, NLP, machine learning applied to customer support, fraud prevention, image processing, and optimization.

DETAILS: See [full list of publications](#) below.

## FULL LIST OF PUBLICATIONS

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### Thesis

- [Mar10] **Mariana S. C. Almeida**. “[Blind separation and blind deblurring of natural images](#)”. PhD thesis. Lisbon, Portugal: Instituto Superior Técnico, Oct. 2010.
- [Mar05] **Mariana S. C. Almeida**. “[Extensions to denoising source separation](#)”. Neural Networks Research Center of the Helsinki University of Technology and Instituto Superior Técnico, 2005.

### Patents

- [LMM25] Daniel Loureiro, Tiago Mesquita, and **Mariana S. C. Almeida**. “Efficient Retrieval of Documents Based on Generated Queries”. (U.S.). Pending. 2025.
- [Mar+25] **Mariana S. C. Almeida**, David Aparicio, Samuel Arcadinho, Ricardo Barata, Pedro Coelho, Cristina Fonseca, Pawel Gocek, Jakub Konik, Ceslovas Lopan, Ricardo Martins, Pedro Monteiro, Nuno Nogueira, and David Viegas. “Systems and Methods to Generate Suggested Responses to Customer Inquiries for Customer Relationship Management”. (U.S.). Pending. 2025.
- [MMM25] **Mariana S. C. Almeida**, Bruno Martins, and Tiago Mesquita. “[Dense Retrieval of Document Templates](#)”. US 12287792 (U.S.). Granted. 2025.
- [Nar+25] Nichal Ashok Narotamo, David Oliveira Aparicio, **Mariana S. C. Almeida**, and Ines Jorge Pedro. “[Intent Detection Via Masked Models](#)”. US 20250023802 (U.S.). Pending. 2025.
- [tex+22] textbfMariana S. C. Almeida, Lourenco Pato, Pedro Coelho, Ricardo Barata, and Ricardo Martins. “[Predicting a Set of Fitted Knowledge Elements](#)”. (U.S.). Pending. 2022.
- [Bra+21] Bernardo Branco, Pedro Abreu, Ana Sofia Gomes, **Mariana S. C. Almeida**, João Ascensão, and Pedro Bizarro. “[Interleaved Sequence Recurrent Neural Networks for Fraud Detection](#)”. US 12373670 (U.S.). Granted. 2021.
- [Mar+21] **Mariana S. C. Almeida**, Lourenco Pato, Pedro Coelho, Ricardo Barata, and Ricardo Martins. “[Metodo implementado por computador para a previsão de um conjunto ajustado de elementos de conhecimento para a elaboração de respostas a pedidos de informações de clientes, sistema, aparelho computacional, programa de computador e meio de leitura associados](#)”. 117281 (Portugal). Granted. 2021.
- [Jes+20] Sérgio Jesus, Catarina Belém, Vladimir Balayan, David Polido, João Bento Sousa, Joel Carvalhais, Ana Margarida Ruela, **Mariana S. C. Almeida**, Pedro Saleiro, and Pedro Bizarro. “[Human-in-the-loop evaluation for explainable artificial intelligence](#)”. US 20220027679A1 (U.S.). Pending. 2020.
- [MA08a] **Mariana S. C. Almeida** and Luís B. Almeida. “[Processo de focagem cega de imagens](#)”. Patent PT 104000 (Portugal). Granted. 2008.

### International Journals

- [MF13a] **Mariana S. C. Almeida** and Mário A. T. Figueiredo. “[Deconvolving images with unknown boundaries using the alternating direction method of multipliers](#)”. In: *IEEE Trans. on Image Processing (TIP)* 22.8 (2013), pp. 3074–3086.
- [MF13b] **Mariana S. C. Almeida** and Mário A. T. Figueiredo. “[Parameter estimation for blind and non-blind deblurring using residual whiteness measures](#)”. In: *IEEE Trans. on Image Processing (TIP)* 22.7 (2013), pp. 2751–2763.
- [MA12] **Mariana S. C. Almeida** and Luis B. Almeida. “[Nonlinear separation of show-through image mixtures using a physical model trained with ICA](#)”. In: *Signal Processing* 92.4 (2012), pp. 872–884.
- [MA10] **Mariana S. C. Almeida** and Luís B. Almeida. “[Blind and semi-blind deblurring of natural images](#)”. In: *IEEE Trans. on Image Processing (TIP)* 19.1 (Jan. 2010), 36–52. (Top 10 most accessed articles of IEEE Trans. Image Processing on March 2010, Top 100 IEEE most accessed articles during the months of January, February and March 2010).
- [MA08b] **Mariana S. C. Almeida** and Luis B. Almeida. “[Wavelet-based separation of nonlinear show-through and bleed-through image mixtures](#)”. In: *Neurocomputing* 72.1 (2008), pp. 57–70.

## International Conferences

- [AAM24] Samuel Arcadinho, David Aparicio, and **Mariana S. C. Almeida**. “Automated test generation to evaluate tool-augmented LLMs as conversational AI agents”. In: *Proceedings of the 2nd GenBench Workshop on Generalisation (Benchmarking) in NLP, at EMNLP’24*. Miami, Florida, USA, Nov. 2024.
- [Nar+23] Nichal Narotamo, David Aparicio, Tiago Mesquita, and **Mariana S. C. Almeida**. “Intent Detection at Scale: Tuning a Generic Model using Relevant Intents”. In: *2023 International Conference on Machine Learning and Applications (ICMLA)*. 2023.
- [MMM22] Tiago Mesquita, Bruno Martins, and **Mariana S. C. Almeida**. “Dense Template Retrieval for Customer Support”. In: *Proceedings of the 29th International Conference on Computational Linguistics (COLING)*. Oct. 2022.
- [JRM21] Bruno Jardim, Ricardo Rei, and **Mariana S. C. Almeida**. “Multilingual Email Zoning”. In: *Proceedings of the 16th Conference of the European Chapter of the Association for Computational Linguistics (EACL’21): Student Research Workshop*. Apr. 2021.
- [Bra+20] Bernardo Branco, Pedro Abreu, Ana Sofia Gomes, **Mariana S. C. Almeida**, João Tiago Ascensão, and Pedro Bizarro. “Interleaved Sequence RNNs for Fraud Detection”. In: *ACM SIGKDD Conference on Knowledge Discovery and Data Mining 2020, Applied Data Science Track KDD’20*. 2020.
- [Lie+17] Renars Liepins et al. “The SUMMA Platform Prototype”. In: *Conference of the European Chapter of the Association for Computational Linguistics (EACL’17), Software Demonstrations*. Valencia, Spain, Apr. 2017.
- [Men+17] Afonso Mendes, David Nogueira, Samuel Broscheit, Filipe Aleixo, Pedro Balage, Rui Martins, Sebastião Miranda, and **Mariana S. C. Almeida**. “SUMMA at TAC Knowledge Base Population Task 2017”. In: *Text Analysis Conference - Knowledge Base Population (TAC-KBP)*. Gaithersburg, Maryland USA, Nov. 2017.
- [FMM16] Daniel C. Ferreira, André F. T. Martins, and **Mariana S. C. Almeida**. “Jointly Learning to Embed and Predict with Multiple Languages”. In: *Annual Meeting of the Association for Computational Linguistics (ACL)*. Berlin, Germany, 2016.
- [Pai+16] Peteris Paikens, Guntis Barzdins, Afonso Mendes, Daniel Ferreira, Samuel Broscheit, **Mariana S. C. Almeida**, Sebastião Miranda, David Nogueira, Pedro Balage, and Andre F. T. Martins. “SUMMA at TAC Knowledge Base Population Task 2016”. In: *Text Analysis Conference - Knowledge Base Population (TAC-KBP)*. Gaithersburg, Maryland USA, 2016.
- [MM15] **Mariana S. C. Almeida** and André F. T. Martins. “Lisbon: Evaluating TurboSemanticParser on Multiple Languages and Out-of-Domain Data”. In: *Proc. of Int. Workshop on Semantic Evaluation (SemEval’15), task 18: Semantic Dependency Parsing*. Denver, USA, 2015.
- [Mar+15] **Mariana S. C. Almeida**, Cláudia Pinto, Helena Figueira, Pedro Mendes, and André F. T. Martins. “Aligning opinions: Cross-lingual opinion mining with dependencies”. In: *Annual Meeting of the Association for Computational Linguistics (ACL)*. Beijing, China, 2015.
- [TMF15] Afonso Teodoro, **Mariana S. C. Almeida**, and Mário A. T. Figueiredo. “Single-frame image denoising and inpainting using Gaussian mixtures”. In: *International Conference on Pattern Recognition Applications and Methods (ICPRAM)*. Lisbon, Portugal, 2015.
- [Alm+14] Miguel B. Almeida, **Mariana S. C. Almeida**, André F. T. Martins, Helena Figueira, Pedro Mendes, and Cláudia Pinto. “Priberam Compressive Summarization Corpus: A New Multi-Document Summarization Corpus for European Portuguese.” In: *Language Resources and Evaluation Conference (LREC)*. Reykjavik, Iceland, May 2014.
- [MAM14] **Mariana S. C. Almeida**, Miguel B. Almeida, and André F. T. Martins. “A Joint Model for Quotation Attribution and Coreference Resolution.” In: *Conference of the European Chapter of the Association for Computational Linguistics (EACL’14)*. 2014.
- [MM14] André F. T. Martins and **Mariana S. C. Almeida**. “Priberam: A turbo semantic parser with second order features”. In: *Proc. of Int. Workshop on Semantic Evaluation (SemEval’14), task 8: Broad Coverage Semantic Dependency Parsing*. Dublin, Ireland, Aug. 2014, (Best system of the shared task).
- [MF13c] **Mariana S. C. Almeida** and Mário A. T. Figueiredo. “Frame-based image deblurring with unknown boundary conditions using the alternating direction method of multipliers”. In: *IEEE Int. Conference on Image Processing (ICIP)*. Melbourne, Australia, 2013.
- [MF13d] **Mariana S. C. Almeida** and Mário A. T. Figueiredo. “Blind image deblurring with unknown boundaries using the alternating direction method of multipliers”. In: *IEEE Int. Conference on Image Processing (ICIP)*. 2013.

- [MAA12] **Mariana S. C. Almeida**, André Abelha, and L. B. Almeida. "Multi-resolution approach for blind deblurring of natural images". In: *IEEE Int. Conference on Image Processing (ICIP)*. Orlando, USA, Sept. 2012.
- [MF11] **Mariana S. C. Almeida** and Mário A. T. Figueiredo. "[New stopping criteria for iterative blind image deblurring based on residual whiteness measures](#)". In: *IEEE Statistical Signal Processing Workshop (SSP)*. 2011.
- [MA09] **Mariana S. C. Almeida** and Luis B. Almeida. "[Blind deblurring of foreground-background images](#)". In: *IEEE Int. Conference on Image Processing (ICIP)*. 2009.
- [AA08] **Almeida, Mariana S. C.** and Luís B. Almeida. "[Blind deblurring of natural images](#)". In: *IEEE Int. Conference on Image Processing (ICIP)*. 2008.
- [SAA08] João Sanches, **Almeida, Mariana S. C.**, and Luís B. Almeida. "Blind Adaptive Deblurring of Chromosome images". In: *Proc. of FPBC 2008 - 1st Portuguese Forum on Computational Biology, Gulbenkian Institute of Science*. 2008.
- [AVS06] **Almeida, Mariana S. C.**, Harri Valpola, and Jaakko Särelä. "[Separation of nonlinear image mixtures by denoising source separation](#)". In: *Proc. Int. Workshop on Independent Component Analysis and Blind Source Separation (ICA)*. 2006.
- [MA06a] **Mariana S. C. Almeida** and Luis B Almeida. "[Wavelet based nonlinear separation of images](#)". In: *IEEE Int. Workshop on Machine Learning for Signal Processing (MLSP)*. 2006.
- [MA06b] **Mariana S. C. Almeida** and Luis B Almeida. "[Separating nonlinear image mixtures using a physical model trained with ICA](#)". In: *IEEE Int. Workshop on Machine Learning for Signal Processing (MLSP)*. 2006.