IACER CALIXTO
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Nationality: Brazilian citizen, born in July, 1983.

Languages: Portuguese (native); English (fluent); French, Italian, and Spanish (professional proficiency).

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Work Experience

Mar/2018— Now
Postdoctoral Research Associate
ILLC, University of Amsterdam (UvA), Amsterdam, Netherlands.
I am currently a Research Associate at the ILLC working with Prof. Khalil Sima'an. My work includes different aspects of *multi-modal natural language processing* (NLP) and (neural) *machine translation* (NMT), *multi-task* and *representation learning*. I also contribute by supervising students and teaching in the Master of AI.

Jul/2017— Mar/2018
Postdoctoral Research Associate
ADAPT Centre, Dublin City University, School of Computing, Dublin, Ireland.
As a Research Associate at the ADAPT Centre my main activities included working with PhD students, on research projects with industry partners, and co-supervising MSc. students.
I worked on a project with *eBay Inc.* where we applied *multi-modal NMT* to improve their e-commerce platform. The main goal was to train neural models to translate product listings while also using the products images, both user-generated data.

Oct/2014— Dec/2014
Research Assistant (Intern)
Sapienza Università di Roma, Rome, Italy.
I used machine learning to automatically identify images available in Wikipedia article pages to illustrate concepts in BabelNet.

Jun/2012— Sep/2012
Research Assistant (Intern)
The University of Sheffield, Sheffield, United Kingdom.
Worked on exploiting images as contextual information to increase the quality of statistical machine translation systems. Funded by the EPSRC Network on Vision and Language, UK.

Feb/2007— Jan/2009
Software Analyst and Programmer
Tecnoplace, Goiânia, Brazil.
Worked on the development of web-based software solutions with a focus on georeferencing. Included: software analysis, design, coding, UX, PMBoK, UML and agile project management.

Teaching Experience

Apr/2018— Jun/2018
Instructor in the Master of AI at the ILLC-UvA, Amsterdam, The Netherlands.
Natural Language Processing 2: Statistical and neural machine translation.

Feb/2015— Jun/2015
Teaching Assistant, Dublin City University (DCU), Dublin, Ireland.
CA446 Statistical Machine Translation: teaching, coding/evaluation of lab exercises and grading.
CA229 Developing Internet Applications: PHP+MySQL, lab work and graded exams.

Feb/2010— Nov/2010
Teaching Assistant, Universidade Federal de Goiás (UFG), Goiânia, Brazil.
Theory of Computation: taught classes, solved in-class exercises and graded exams.

Education

2013—2017 **PhD. in Computer Science**
Dublin City University (DCU), School of Computing, Dublin, Ireland.

title: Incorporating visual information into neural machine translation.

supervisors: Prof. Qun Liu (DCU) and Prof. Nick Campbell (Trinity College Dublin).
summary: I proposed different ways to incorporate features derived from images, e.g. visual features, into neural machine translation (NMT) and obtained promising results. We use both *global* and *local* visual features, and apply multi-modal NMT models to translate image descriptions from Flickr and also product listings from eBay, in both cases using the raw image as an additional input to the model.

2011—2013 **Erasmus Mundus Master**, **Univ. of Wolverhampton**, **do Algarve**, **de Franche-Comté.**
summary: Worked on the automatic extraction of information from research papers. It covered the fields of machine learning, NLP, information extraction and data mining (GPA *14.8/20*).

2009—2011 **Master in Computer Science (MSc.), Federal University of Goiás, Goiânia, Brazil.**

summary: Worked on an optimisation problem to improve cities' traffic, namely the *estimation of origin-destination demand matrices based on fuzzy linear programming for Brazilian congested traffic networks*. Covered computer theory, graphs, algorithms and non-linear optimisation. Registered for 8 modules and obtained the highest grade (A) in all of them.

2003—2007 **Bachelor in Information Systems (BSc.), Faculdades ALFA, Goiânia, Brazil**. GPA *8.52/10*.

Supervision (on-going)

		Title
Msc. Thesis	Fábio Paixão Curi	Towards Incorporating Typological Linguistic Features into Low-resource Neural Machine Translation.
Summer AI Project	Victor Milewski	A topic mixture model for neural image description generation.
Summer AI Project	Maartje de Jonge	Neural image description by integrating description and translation models.

Technical skills (low to high experience, 1–5)

Programming languages: Python (5), Java (4.5), PHP (4.5), C/C++ (4), Shell (bash) (4), Perl (3.5), Javascript (AJAX, JQuery) (3.5), Matlab (3), Octave (3). (X)HTML (4.5), CSS (4). XML (4.5), XSLT (4.5), XPath (4).

Machine Learning: PyTorch (5), numpy (5), Theano (5), Tensorflow (4.5), scipy (4.5), scikit-learn (4.5), Keras (4), Caffe (4), IBM CPLEX (3), GLTK (3).

Operating Systems and technologies: Ubuntu/Debian (5), Windows (5), LaTeX (5), MySQL (5), HPC/cluster (PBS and Slurm) (4.5), Linux VMs (4.5), PostgreSQL (4.5), OpenSUSE (4), Windows Server (3.5), SQL Server (3.5).

Software Management: Requirements, Analysis and Modelling (4.5), UML (4.5), PMBoK (4.5), Agile/Scrum (4.5), Trello/Basecamp (4), Code version control (Git/SVN/CVS) (4.5), Brainstorming/MindMap (4.5), Risk Management (4), Quality Management (4).

Soft skills

- Excellent written and oral communication, and great interpersonal skills;

- Great leadership and teamwork attested by multiple contributions to successful academic and industrial projects;

- Excellent problem solving and research and development skills;

- Broad international experience: Netherlands, Canada, Portugal, France, Italy, UK ($<$1 year), Ireland ($>$3 years) and Brazil.

Services

I serve as a reviewer for the **MT** and the **Computational Linguistics** journals, and as a PC member for: **NAACL 2019**, **MT Summit 2019**, **AAAI 2019**, **ACL 2018**, **EMNLP 2018**, **IJCAI-ECAI 2018**, **COLING 2018**, **EAMT 2018**, **RANLP 2017**, among other conferences/workshops.
I also co-organised multiple shared tasks and workshops: **AMTA 2018 LoResMT Workshop**, **IJCNLP 2017 Cupral Workshop**, among others.

Selected Research Activities

Jul/2018	**DO-IT Project: Detecting Oncology Information Technology**.
	Participated as NLP specialist in the defence of the DO-IT project proposal to Cancer Research UK (CRUK) Grand Challenge Advisory Panel.
Sep/2017	**Conference on Empirical Methods on NLP (EMNLP) in Copenhagen, Denmark**.
	Poster: Incorporating Global Visual Features into Attention-Based Neural Machine Translation.
Sep/2017	**Second Conference on Machine Translation (WMT) in Copenhagen, Denmark**.
	Poster: DCU System Report on the WMT 2017 Multi-modal Machine Translation Task.
Sep/2017	**Recent Advances in Natural Language Processing (RANLP) in Varna, Bulgaria**.
	Oral presentation: Sentence-level Multilingual and Multi-modal Embeddings for NLP.
Aug/2017	**Annual Meeting of the ACL (ACL) in Vancouver, Canada**.
	Poster: Doubly-Attentive Decoder for Multi-modal Neural Machine Translation.
Jul/2017	**Department of Computer Science in The University of Sheffield, Sheffield, UK**.
	Academic visit (16 days) to the NLP group in the Department of Computer Science, where we worked on attention strategies for multi-task learning.
Apr/2017	**Conference of the European Chapter of the ACL (EACL) in Valencia, Spain**.
	Poster: Using Images to Improve Machine-Translating E-Commerce Product Listings.
Apr/2017	**iVision&Language Workshop in Valencia, Spain**.
	Oral presentation and Poster: "Human Evaluation of Multi-modal Neural Machine Translation: a Case Study on E-commerce Listing Titles".
2015–2017	**Machine Learning Group in Dublin City University, Dublin**.
	I helped co-organise the group, where cutting-edge Machine Learning papers from top-tier conferences in the field are discussed.
Sep/2016	**ADAPT Science Day, Croke Park, Dublin** (poster).
Apr/2016	**Institute for Logic, Language and Computation (ILLC) in The University of Amsterdam, Amsterdam, Netherlands**.
	Academic visit (15 days) to the ILLC, where we worked on multi-task learning models for multi-modal translation. Informal talk: "Multilingual and Multi-modal Embeddings".

Invited Talks and Seminars

7–11 Jan/2019	**Dagstuhl Seminar: Joint Processing of Language and Visual Data for Better Automated Understanding**
27 Jun/2018	**Summer School on Translation (In Portuguese) in the Faculty of Arts of Univ. do Porto**
8 Dec/2017	**GIAN Workshop, Indian Institute of Technology Patna**.
25 Oct/2017	**Colloquium of Department of Computational Linguistics, Universität Heidelberg**.
6 July/2017	**NLP Group Seminar, Department of Computer Science, The University of Sheffield**.

Selected publications

2018

MT Journal	**Iacer Calixto**, Qun Liu. *An Error Analysis for Image-Based Multi-Modal Neural Machine Translation*. Machine Translation Journal: Special Issue in Human Factors in Neural Machine Translation (*under review*).
Arxiv	**Iacer Calixto**, Miguel Rios, Wilker Aziz. *Latent Visual Cues for Neural Machine Translation*. Arxiv pre-print: `https://arxiv.org/abs/1811.00357`.

2017

ACL	**Iacer Calixto**, Qun Liu, Nick Campbell. *Doubly-Attentive Decoder for Multi-modal Neural Machine Translation*. In: The Annual Meeting of the Association for Computational Linguistics.
EMNLP	**Iacer Calixto**, Qun Liu. *Incorporating Global Visual Features into Attention-Based Neural Machine Translation*. In: Proceedings of the 2017 Conference on Empirical Methods in Natural Language Processing.
EACL	**Iacer Calixto**, Daniel Stein, Evgeny Matusov, Pintu Lohar, Sheila Castilho, Andy Way. *Using Images to Improve Machine-Translating E-Commerce Product Listings*. In: The Meeting of the European Chapter of the Association for Computational Linguistics.
RANLP	**Iacer Calixto**, Qun Liu. *Multilingual Multi-Modal Embedding for Natural Language Processing*. In: Recent Advances in Natural Language Processing.
VL	**Iacer Calixto**, Daniel Stein, Evgeny Matusov, Sheila Castilho, Andy Way. *Human Evaluation of Multi-modal Neural Machine Translation: A Case-Study on E-Commerce Listing Titles*. In: The Integrating Vision & Language Workshop.
INLG	Thiago Castro Ferreira, **Iacer Calixto**, Sander Wubben and Emiel Krahmer. *Linguistic realisation as machine translation: Comparing different MT models for AMR-to-text generation* In: The International Natural Language Generation conference. **Best Long Paper Award**.

2016

WMT	**Iacer Calixto**, Desmond Elliott, Stella Frank. *DCU–UvA Multimodal MT System Report*. In: The First Conference on Machine Translation.
WMT	Chris Hokamp, **Iacer Calixto**. *Multimodal neural machine translation using minimum risk training*. In: The First Conference on Machine Translation.
LREC	Debasis Ganguly, **Iacer Calixto**, Gareth Jones. *Developing a Dataset for Evaluating Approaches for Document Expansion with Images*. In: Proceedings of the Tenth International Conference on Language Resources and Evaluation.

Older articles and papers

RANLP 2015 | Sanja Stajner, **Iacer Calixto**, Horacio Saggion. *Automatic Text Simplification for Spanish: Comparative Evaluation of Various Simplification Strategies*. In: Recent Advances in Natural Language Processing.

WMT 2014 | Chris Hokamp, **Iacer Calixto**, Joachim Wagner, Jian Zhang. *Target-Centric Features for Translation Quality Estimation*. In: The Workshop on Statistical Machine Translation.

WMT 2014 | Jian Zhang, Xiaofeng Wu, **Iacer Calixto**, Ali Vahid, Andy Way, Qun Liu. *Experiments in Medical Translation Shared Task at WMT 2014*. In: The Workshop on Statistical Machine Translation.

EJOR 2013 | Les Foulds, Hugo do Nascimento, **Iacer Calixto**, Bryon Hall, Humberto Longo. *A fuzzy set based approach to origin-destination matrix estimation in urban traffic networks with imprecise data*. In: **The European Journal of Operations Research**.

VL 2012 | **Iacer Calixto**, Lucia Specia, Teófilo de Campos. *Images as context in Statistical Machine Translation*. In: The Workshop on Vision and Language.

Scientific outreach

Dec/2016 | **Dublin Natural Language Processing Meet-up in Workday Inc., Dublin**. Gave the talk "Multi-modal machine translation: what is it and why bother?"

Feb/2016 | **Dublin Machine Learning Meet-up in Nitro HQ, Dublin**. Gave the talk "Multi-modal multilingual representations for NLP".

Grants and Awards

Sep/2017 | **Best Long Paper Award in The International Conference on Natural Language Generation (INLG)** for the paper *"Linguistic realisation as machine translation: Comparing different MT models for AMR-to-text generation"*.

Jan/2017 | **ADAPT Centre Director's Commercialisation Award** for collaboration with the industry, valued at €2,500.

Apr/2017 | **DCU Postgraduate Grant**. Travel grant to enable conference attendance, valued at €500.

Nov/2016 | **DCU Invent Commercialisation Award** for industry applications of multi-modal neural MT, valued at €300.

2015–2017 | **COST Action IC1307 Integrating Vision and Language**. Received *five grants* from the COST Action IC1307 to present my work at three workshops (2015, 2016, 2017), to visit the Institute for Logic, Language and Computation (ILLC) in the University of Amsterdam (2016), and to visit the Department of Computer Science in the University of Sheffield (2017). Valued at €6,580.

2013–2017 | **Science Foundation Ireland, SFI**. PhD is funded by SFI through the ADAPT Centre, valued at €16,000 a year for three years.

2011–2013 | **Erasmus Mundus (EM) Scholarship**. Master in NLP&HLT was funded by an EM scholarship, valued at €24,000 a year for two years.

2009–2011 | **CAPES Scholarship (Brazil)**. MSc. was funded by a CAPES Scholarship, valued at €5,160 a year for two years.

2007–2008 | **Information Systems Best Student Award**. Won the "Best student award" in two semesters, competing against all Information Systems BSc. students in both cases (~ 300 students).

Interests and Hobbies

Blockchain technology; Brazilian MPB music; playing classical guitar, percussion and the drums.