

IACER CALIXTO
13 August, 2018

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 to 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	Incorporating Typological Linguistic Features into Neural Machine Translation for Low-Resource and Morphologically-Rich Languages.
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), L^AT_EX (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 served as a reviewer for the **MT** and the **Computational Linguistics** journals, and as a PC member for: **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	GYAN 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 peer-reviewed publications

2018

MT Journal	Iacer Calixto , Qun Liu. <i>An Error Analysis for Image-Based Multi-Modal Neural Machine Translation</i> . <u>Machine Translation Journal: Special Issue in Human Factors in Neural Machine Translation (under review)</u> .
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2017

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

2016

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

Older articles and papers

RANLP 2015	Sanja Stajner, Iacer Calixto , Horacio Saggion. <i>Automatic Text Simplification for Spanish: Comparative Evaluation of Various Simplification Strategies</i> . In: <u>Recent Advances in Natural Language Processing</u> .
WMT 2014	Chris Hokamp, Iacer Calixto , Joachim Wagner, Jian Zhang. <i>Target-Centric Features for Translation Quality Estimation</i> . In: <u>The Workshop on Statistical Machine Translation</u> .
WMT 2014	Jian Zhang, Xiaofeng Wu, Iacer Calixto , Ali Vahid, Andy Way, Qun Liu. <i>Experiments in Medical Translation Shared Task at WMT 2014</i> . In: <u>The Workshop on Statistical Machine Translation</u> .
EJOR 2013	Les Foulds, Hugo do Nascimento, Iacer Calixto , Bryon Hall, Humberto Longo. <i>A fuzzy set based approach to origin-destination matrix estimation in urban traffic networks with imprecise data</i> . In: <u>The European Journal of Operations Research</u> .
VL 2012	Iacer Calixto , Lucia Specia, Teófilo de Campos. <i>Images as context in Statistical Machine Translation</i> . In: <u>The Workshop on Vision and Language</u> .

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 “ <i>Linguistic realisation as machine translation: Comparing different MT models for AMR-to-text generation</i> ”.
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 <i>five grants</i> 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.