

Nuno M GUERREIRO

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ACADEMIC QUALIFICATIONS

- Current* Doctor of Philosophy in ELECTRICAL AND COMPUTER ENGINEERING
Instituto Superior Técnico, Lisbon
Advised by André F.T. Martins and Pierre Colombo
- JUNE 2019 Master of Science in MECHANICAL ENGINEERING
Instituto Superior Técnico, Lisbon
- JUNE 2016 Bachelor of Science in MECHANICAL ENGINEERING
Instituto Superior Técnico, Lisbon

SELECTED PUBLICATIONS

- * = (co-)first authorship
- Preprint | TOWER: AN OPEN MULTILINGUAL LARGE LANGUAGE MODEL FOR TRANSLATION-RELATED TASKS
D.Alves, J. Pombal, **N.M. Guerreiro***, P.H. Martins, J. Alves, A. Farajian, B. Peters
R. Rei, P. Fernandes, S. Agrawal, P. Colombo, J. Sousa, A.F.T. Martins
[arXiv.org](#), Feb. 2024
- CROISSANTLLM: A TRULY BILINGUAL FRENCH-ENGLISH LANGUAGE MODEL
M.Faysse, P. Fernandes, **N.M. Guerreiro***, A. Loison, D. Alves, C. Corro, N. Boizard, J. Alves, R. Rei, P.H. Martins, A.B. Casademunt, F. Yvon, A.F.T. Martins, G. Viau, C. Hudelot, P. Colombo
[arXiv.org](#), Feb. 2024
- XCOMET: TRANSPARENT MACHINE TRANSLATION EVALUATION THROUGH FINE-GRAINED ERROR DETECTION
R.Rei, **N.M. Guerreiro***, J. Pombal, D. van Stigt, M. Treviso, L. Coheur, J. Souza, A.F.T. Martins
[arXiv.org](#), Oct. 2023
- Published | HALLUCINATIONS IN LARGE MULTILINGUAL TRANSLATION MODELS
N.M. Guerreiro*, D.M. Alves, J. Waldendorf, B. Haddow, A. Birch
P. Colombo, A.F.T. Martins
TACL – Transactions of the Association for Computational Linguistics, August 2023
- OPTIMAL TRANSPORT FOR UNSUPERVISED HALLUCINATION DETECTION IN NEURAL MACHINE TRANSLATION
N.M. Guerreiro*, P. Colombo, P. Piantanida, A.F.T. Martins
ACL 2023 – Annual Meeting of the Association for Computational Linguistics
- LOOKING FOR A NEEDLE IN A HAYSTACK:
A COMPREHENSIVE STUDY OF HALLUCINATIONS IN NEURAL MACHINE TRANSLATION
N.M. Guerreiro*, E. Voita, A.F.T. Martins
EACL 2023 – European Chapter of the Association for Computational Linguistics
- COMETKIWI: IST-UNBABEL 2022 SUBMISSION FOR THE QUALITY ESTIMATION SHARED TASK
R. Rei, M. Treviso, **N.M. Guerreiro***, C. Zerva, A. Farinha, C. Maroti, J. Souza, T. Glushkova, D. Alves, A. Lavie, L. Coheur, A.F.T. Martins
2022 Seventh Conference on Machine Translation (WMT22) @ EMNLP 2022
Winners on all tracks

Published	<p>SPECTRA: SPARSE STRUCTURED TEXT RATIONALIZATION N.M. Guerreiro*, A.F.T. Martins EMNLP 2021 – Conference on Empirical Methods in Natural Language Processing</p> <p>THE INSIDE STORY: TOWARDS BETTER UNDERSTANDING OF MACHINE TRANSLATION NEURAL METRICS R. Rei, N.M. Guerreiro*, M. Treviso, L. Coheur, A. Lavie, A.F.T. Martins ACL 2023 – Annual Meeting of the Association for Computational Linguistics</p> <p>SCALING UP COMETKIWI: UNBABEL-IST 2023 SUBMISSION FOR THE QUALITY ESTIMATION SHARED TASK R.Rei, N.M. Guerreiro*, J. Pombal, D. van Stigt, M. Treviso, L. Coheur, J. Souza, A.F.T. Martins arXiv.org, Sep. 2023 Winners on all tracks</p> <p>CREST: A JOINT FRAMEWORK FOR RATIONALIZATION AND COUNTERFACTUAL TEXT GENERATION M. Treviso, A. Ross, N.M. Guerreiro, A.F.T. Martins ACL 2023 – Annual Meeting of the Association for Computational Linguistics</p> <p>IST-UNBABEL 2021 SUBMISSION FOR THE EXPLAINABLE QUALITY ESTIMATION SHARED TASK M. Treviso, N.M. Guerreiro, R. Rei, A.F.T. Martins 2nd Workshop on Evaluation and Comparison of NLP Systems (Eval4NLP) @ EMNLP 2021 Best Explainability Approach</p>
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WORK EXPERIENCE AND LEADERSHIP

JUL 2023 PRESENT	<p>UNBABEL, Lisbon <i>AI Research Scientist</i></p>
FEB. 2017 FEB. 2019	<p>Pedagogical Council of INSTITUTO SUPERIOR TÉCNICO, Lisbon <i>Student Vice-President</i></p> <ul style="list-style-type: none"> ▪ The student Vice-President of the Pedagogical Council is the head of student representation and holds an executive role in the School's management; elected by my peers (11k+ students). ▪ Delivered a school-wide restructuring proposal of all BSc and MSc courses grounded on the best pedagogical and teaching practices in the world (e.g. flexibility and multidisciplinary). The proposal was officially implemented in 2021.
JUN. 2014 JUN. 2017	<p>BOARD OF STUDENTS OF MECHANICAL ENGINEERING, Lisbon <i>Presidency</i></p> <ul style="list-style-type: none"> ▪ Acted as Treasurer, Vice-President of Finance and Administration and President of the Board of Students of Mechanical Engineering at Instituto Superior Técnico; ▪ Delivered a revenue increase of approximately 900+% (revenue increased from EUR 2,000 to greater than EUR 20,000); ▪ Organised three significant annual summits relating to Mechanical Engineering – inviting a mix of prominent local and international companies, and speakers from Fortune 500 companies and government agencies (including NASA).

TALKS

AUG. 2023	Quality Estimation for Machine Translation Machine Translation Marathon in Europe, 2023
JUL. 2023	Towards Safeguarding Translation Models Against Hallucinations Apple Machine Translation Seminar, 2023
JUL. 2023	Towards Safeguarding Translation Models Against Hallucinations UTTER User Day, 2023
JUN. 2023	Towards Safeguarding Translation Models Against Hallucinations Machine Translation Marathon in the Americas, 2023
JUN. 2023	Understanding Hallucinations in Machine Translation through Detection and Mitigation Analysis CNRS, Université Paris-Sud, Paris
JUN. 2023	Optimal Transport for Unsupervised Hallucination Detection in Neural Machine Translation CentraleSupélec, Université Paris-Saclay, Paris

TEACHING

FEB-AUG. 2022	INSTITUTO SUPERIOR TÉCNICO, Lisbon Deep Structured Learning, <i>Teaching Assistant</i>
FEB-AUG. 2020	NOVA IMS - INFORMATION MANAGEMENT SCHOOL, Lisbon Text Mining, <i>Invited Professor</i>

AWARDS

SEP. 2023	Winners on all tracks. WMT 2023 QUALITY ESTIMATION SHARED TASK
SEP. 2022	Winners on all tracks. WMT 2022 QUALITY ESTIMATION SHARED TASK
NOV. 2021	Best Explainability Approach. EVAL4NLP SHARED TASK ON EXPLAINABLE QUALITY ESTIMATION
JUN. 2021	Winners. SWISSTEXT SENTENCE END AND PUNCTUATION PREDICTION IN NLG TEXT
JUN. 2019	First Place. PORTUGAL AIR SUMMIT AWARD Recognizing outstanding relevant and innovative work in the area of Aerospace Science.
2014-2017	Distinction Award for outstanding academic performance in the academic years 2013/2014, 2014/2015, 2015/2016

SKILLS AND INTERESTS

LANGUAGES: Portuguese (Native), English (Fluent)
PROGRAMMING: Python (expert), Bash (proficient)
LIBRARIES AND FRAMEWORKS: PyTorch, numpy, pandas, transformers)