Raúl Vázquez

Contact: ✉ *raul.vazquez@helsinki.fi*
 in *linkedin.com/in/jraulvc*
 ○ *jrvc.github.io/*

Education

03.2018–PRESENT **Ph. D. Language Technology**, *University of Helsinki (Finland)*.
Funding from the European Research Counci (ERC).
Supervisor: Prof. Jörg Tiedemann & co-Supervisor: Mathias Creutz
Focus Areas: Natural Language Processing, Neural Machine Translation, Representation Learning

09.2015–09.2017 **M. Sc. Mathematical Engineering**, *Università degli Studi dell'Aquila (Italy)*.
Scholarship award from the European Commission.
Thesis: The Vehicle Routing Problem - An Application and Proposed Heuristics.
Adviser: Prof. Claudio Arbib & co-Adviser: Prof. Stefano Smriglio
Focus Areas: Mathematical Modelling, ODEs, PDEs, Optimization   GPA: 110/110

04.2016–09.2016 **M. Sc. Technomathematik**, *Hamburg Universität (Germany)*.
Joint degree awarded as participant of the Erasmus Mundus Joint MSc. in Mathematical Modelling in Engineering - MathMods (http://www.mathmods.eu/)
Focus Areas: non-smooth Convex Optimization and Numerical Approximation methods for PDEs (Galerkin Methods, Finite Differences and Finite Volumes)   GPA: 2.03/5

08.2008–06.2014 **B.Sc. Applied Mathematics**, *Instituto Tec. Autónomo de México (Mexico)*.
Thesis: A Bayesian Approach to Time Series Smoothing via the Hodrick-Prescott Filter.
Adviser: Prof. Enrique de Alba Guerra
Focus areas: Statistics, Probability, Linear and non-Linear Optimization   GPA: 8,4/10

09.2011–07.2012 **Exchange Program from the German Academic Exchange Service (DAAD)**, *Universität des Saarlandes (Germany)*.
Scholarship award from the DAAD. Statistics & economics.

Working Experience

03.2018–PRESENT **Researcher - Doctoral Candidate**, *University of Helsinki*, Helsiki (Finland).
Research for developing multilingual and multimodal machine translation.

10.2017–01.2018 **Data Science Lab collaborator**, *SEDESOL - Secretariat of Social Development*, Remote Work.
Development of a monitor of agricultural production via remote-sensing data as part of a hunger early-warning system.

02.2017–09.2017 **Collaborator**, *LFondry and Univerità degli Studi di L'Aquila*, L'Aquila (Italy).
Customization of the Vehicle Routing Problem for improving LFoundry's production line.

01.2014–08.2015 **Project Coordinator**, *INEGI - Mexico's official statistics institute*, Mexico City.
Assisting the INEGI's vice-president. Research on time series and Bayesian statistics.

05.2016–06.2016 **Modelling Camp**, *Hamburg Universität*, Hamburg (Germany).
Implementation and simulation of a mathematical framework for describing crowd dynamics.

06.2012–08.2012 **Vehicle Inspection Intern**, *Volkswagen*, Hannover (Germany).
Creating a GUI to improve the production line operation using an infrared signal manager.

▬▬▬ Others

Languages

Native	**Spanish**	
C2	**English**	*Toefl iBT, 2014 (107/120)*
C1	**Italian**	*DALI-C1, 2017 (80.9%)*
C1	**German**	*DSH-2, 2012 (86% oral, 67% written)*
B2	**Finnish**	*YKI-keskitaso, 2020*

Programming

Programs	Python, R, Matlab, SPSS, TeX, Office
ML libraries	pytorch, torchtext, torchaudio, huggingface transformers, pytorch-lightning, nltk
Platforms	Linux, Windows

Publications

2022 **A Closer Look at Parameter Contributions When Training Neural Language and Translation Models.**.
R. Vázquez, H. Celikkanat, V. Ravishankar, M. Creutz, J. Tiedemann. In Proceedings of the EAMT2022.

2022 **Latest Development in the FoTran Project – Scaling Up Language Coverage in Neural Machine Translation Using Distributed Training with Language-Specific Components.**.
R. Vázquez, M. Boggia, A. Raganato, N. A. Loppi, S. Grönroos, J. Tiedemann. In Proceedings of the EAMT2022.

2021 **An Empirical Investigation of Word Alignment Supervision for Zero-shot Multilingual Neural Machine Translation.**.
A. Raganato, R. Vazquez, M. Creutz and J. Tiedemann. In Proceedings of the EMNLP2021.

2021 **On the differences between BERT and MT encoder spaces and how to address them in translation tasks.**.
R. Vázquez, H. Celikkanat, M. Creutz and J. Tiedemann. In. Proceedings of the ACL-ICJNLP2021-SRW

2021 **The Helsinki Submission to the AmericasNLP shared task.**.
R. Vázquez, Y. Scherer, S. Virpioja and J. Tiedemann. In Proceedings of the NAACL 2021 (AmericasNLP)

2020 **A Systematic Study of Inner-Attention-Based Sentence Representations in Multilingual Neural Machine Translation**.
R Vazquez, A Raganato, J Tiedemann and M Creutz. In Computational Linguistics. Volume 46, Issue 2.

2020 **The University of Helsinki Submission to the IWSLT2020 Offline Speech Translation Task.**.
R Vazquez, M Aulamo, U Sulubacak, and J Tiedemann. In Proceedings of the IWSLT2020

2019 **Multilingual NMT with a language-independent attention bridge**.
R Vazquez, A Raganato, J Tiedemann and M Creutz. In Proceedings of the RepL4NLP2019.

2019 **An Evaluation of Language-Agnostic Inner-Attention-Based Representations in Machine Translation**.
A Raganato, R Vazquez, M Creutz and J Tiedemann. In Proceedings of the RepL4NLP2019.

2019 **The University of Helsinki Submission to the WMT2019 Parallel Corpus Filtering Task**.
R Vazquez, U Sulubacak and J Tiedemann. In Proceedings of the WMT2019

2019 **The University of Helsinki Submissions to the WMT2019 Similar Languages Translation Task**.
Y Scherrer, R Vazquez, and S Virpioja. In Proceedings of the WMT2019

2019 **The University of Helsinki Submission to the WMT2019 News Translation Task**.
A Talman, U Sulubacak, R Vazquez, Y Scherrer, S Virpioja, A Raganato, A Hurskainen, and J Tiedemann. In Proceedings of the WMT2019

2018 **The MeMAD Submission to the WMT18 Multimodal Translation Task**.
SA Grönroos, B Huet, M Kurimo, J Laaksonen, B Merialdo, P Pham, M Sjöberg, U Sulubacak, J Tiedemann, R Troncy and R Vázquez. In Proceeding of the WMT 2018.