

Ronald A. Cardenas Acosta

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Research Interests

- Machine reading comprehension, controlled natural language generation, common-sense reasoning and inference.
- Psycholinguistic models of text comprehension, computational models of human memory.
- Unsupervised learning, decipherment.

Education

Centre for Doctoral Training in NLP School of Informatics University of Edinburgh	Oct. 2019 - Jul 2023 (expected)
M.Sc. Language and Communication Technologies Charles University. Prague, Czech Republic University of Malta, Malta	Oct. 2017 - Jul 2019
B.Sc Mechatronics National University of Engineering. Lima, Peru. <i>Summa Cum Laude</i>	Aug. 2009 - Dec. 2015

Relevant Publications

- R.A. Cardenas, S.B. Cohen, and M. Galle. Unsupervised Extractive Summarization by Human Memory Simulation. *ArXiv preprint arXiv:2104.08392*, 2021.
- R.A. Cardenas. Universal Morphological Analysis using Reinforcement Learning. *Masters thesis. Charles University in Prague*, 2019.
- R.A. Cardenas, Y. Ling, J. Heng, and J. May. A Grounded Unsupervised Universal Part-of-Speech Tagger for Low-Resource Languages. *Proceedings of NAACL-HLT 2019 (long papers)*.
- D. Kondratyuk, R.A. Cardenas, and O. Bojar. Replacing Linguists with Dummies: A Serious Need for Trivial Baselines in Multi-Task Neural Machine Translation. *Proceedings of The Prague Bulletin of Mathematical Linguistics, volumen 113*.
- S. Narayan, R.A. Cardenas, N. Papasarakantopoulos, S.B. Cohen, M. Lapata, J. Yu, Y. Chang. Document modeling with external attention for sentence extraction. *Proceedings of the 56th Annual Meeting of the ACL (long papers)*, 2018.

Invited talks, Poster sessions, and Service

- Poster session: “*Unsupervised Extractive Summarization by Human Memory Simulation*”. The Advanced Language Processing Winter School. January 2021.
- Panelist at the “LxMLS Alumni Panel”, an event part of the LxMLS 2020 Summer School. July 2020.
- Reviewer at the ACL Student Research Workshop 2020.
- Talk: “*Universal Morphological Analysis using Reinforcement Learning*”. Charles University in Prague–Institute of Formal and Applied Linguistics (UFAL). February 2020.
- Talk: “*Morphological Process Transduction: Towards interpretable multi-lingual morphological analysis*”. University of Malta, Faculty of Information and Communication Technologies. November 2019.

Research Experience

Amazon Research, Cambridge, UK

Jun. - Aug. 2019

I was part of the Alexa team, working on transfer learning across tasks involving question domain categorization and paraphrase detection.

University of Southern California

May. - Aug. 2018

I worked on the application of decipherment to POS tagging for under-resourced languages.

Charles University in Prague

Oct 2017 - Apr 2018

I worked in morphological analysis for Peruvian native languages, and joint learning of machine translation and tagging for en-de.

University of Edinburgh

Jun - Jul 2017

I worked on machine reading comprehension and the influence of difference degrees of contextual richness for Question Answering.

Pontifical Catholic University of Peru

Nov 2016 - May 2017

I worked on collection of Southern Quechua audio data, the development of a speech recognizer and its deployment in a prototype android app.

Teaching and Mentoring Experience

School of Informatics, University of Edinburgh, UK

Sept. 2019, Sept. 2020

Teaching assistant for the class *Foundamentals in NLP* and *Advanced NLP*, offered to last-year undergraduates. I was in charge of the preparation of coursework material, lab demonstrations, and grading.

HackSpace, Lima, Peru

Jul. - Nov. 2016

www.hackspace.pe

Lecturer of a 32-hours mini-course named *Introduction to Machine Learning and NLP* aimed to IT professionals and focused in practical applications, with practical labs included.

Artificial Intelligence Research Lab (GISCIA), Lima, Peru

2014-2015

Served as vice-president of GISCIA, organizing seminars, workshops and talks to introduce undergraduates to research projects in Machine Learning.

Also served as training coach of undergraduate students' teams for competitive programming contests, such as the ACM ICPC.

Achievements, Honours and Awards

- Erasmus Mundus Scholarship for Joint Master Degree (2017-2019). European Commission.
- Undergraduate Research Grant (2014, 2015). Research Institute of the National University of Engineering.
- International Training Grant (2013). CONCYTEC - National Council of Science, Technology and Innovation, Peru.
- 7th (2012) and 5th place (2014) in ACM-ICPC South American Regional Contest, IBM.
- 11th Place (world wide), IEEEExtreme Programming Competition (2013).
- 1st Place, IEEEExtreme - INTERCON National Programming Contest, Peru, 2012.
- Dean's List, 2012-2014.

Technical Strengths

- *Programming Languages:* Python, C/C++, Java, R, Perl, Bash, JavaScript, Ruby.
- *Databases:* MySQL, MongoDB.
- *Deep Learning frameworks:* TensorFlow, PyTorch, MxNet.

Languages

English: Professional Proficiency
Spanish: Native
Czech: Elementary Proficiency
Portuguese: Elementary Proficiency

References

Shay B. Cohen

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