Flor Miriam Plaza del Arco

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BIO

Postdoctoral Research Fellow at the MilaNLP group at Bocconi University. My primary research interests focus on Natural Language Processing for social good, with a specific emphasis on emotion detection, harmful language identification, and ensuring fairness and ethical considerations in NLP systems.

I am experienced in creating corpora to promote NLP research in emotion analysis and harmful language detection, as well as developing and enhancing state-of-the-art deep learning models to address subjective NLP tasks. I have authored over 40 papers on these topics, cited in over 700 publications. Notably, I have actively contributed to the academic community by co-organizing different shared tasks, workshops, and conferences. I am known for being an autonomous, self-motivated, and well-organized team member. I love creating solutions to new problems and working in interdisciplinary collaborations to share and expand my knowledge. Outside of work, I like hiking, reading, learning new languages, and exploring culinary experiences.

Education

February 2023–Present
Postdoctoral Research Fellow, NLP, *MilaNLP research group, Bocconi University*, Italy.

2018–January 2023
PhD, Information and Computer Technologies, *SINAI research group, University of Jaén*, Spain.
Detecting offensive language by integrating multiple linguistic phenomena.

2016–2018 :
M.S., Computer Science, *University of Jaén*, Spain, Thesis title: Computational Analysis of Emotions in Social media.

2012–2016 :
B.S., Computer Science, *University of Jaén*, Spain, Thesis title: Patient Opinion Analysis in Web 2.0.

Research Experience

May 2022 – July 2022
Intern/Researcher, Natural Language Processing (HLT-NLP), Fondazione Bruno Kessler, Trento, Italy.
Advisor: Dr. Carlo Strapparava.

May 2021 – July 2021
Intern/Researcher, Theoretical Computational Linguistics (TCL), Institute for Natural Language Processing, University of Stuttgart, Germany.
Advisor: Dr. Roman Klinger.

April 2019 – June 2019
Intern/Researcher, Natural Language Processing (HLT-NLP), Fondazione Bruno Kessler, Trento, Italy.
Advisor: Dr. Carlo Strapparava.

Nov 2019
Visiting Researcher, Research Institute in Information and Language Processing, University of Wolverhampton, UK.

Advisor:	Dr. Ruslan Mitkov.
Sep 2016 – May 2017	**Andalusian Public Foundation for Biosanitary Research, Jaén, Spain**.
Advisor:	Prof. Victor Manuel Rivas Santos.

Fellowships, Honors, Recognitions & Outstanding Achievements

2019-January 2023	**PhD Scholarship** funded by the Spanish Ministry of Science, Innovation, and Universities.
2016 – Present	**Fellow** of the Society for Natural Language Processing, Spain.
2021	**Ranked 1st** among 31 teams in the DETOXIS Shared Task on toxicity detection in Spanish (IberLEF, SEPLN).
2021	**Ranked 2nd** among 72 submitted systems in the EXIST Shared Task on sexism identification in social networks (IberLEF, SEPLN).
2021	**First prize** in the "Neologisms and technical terms in the field of energy and environmental energy and environment" Hackathon with the POEMA project. The Royal Spanish Academy and the Endesa Foundation.
2021	**Provincial winner** in the general category of the "II Edition of the Contest Your Doctoral Thesis in a Twitter Thread: #HiloTesis". Spanish Foundation for Science and Technology of the Spanish Ministry of Science and Innovation.
2020	**First prize** for the best introductory research work (IV Ada Lovelace Awards). University of Jaén.
2018	**2nd Team Rank** for the application "Geographical Disease Dispersion Monitor". II Hackathon of Language Technologies, Mobile World Congress, Barcelona, Spain.
2018	**5th Best academic record** of in the M.S., Computer Science.
2016	**4th Best academic record** of in the B.S., Computer Science.

Program, Scientific & Organization Committees

2024	Countering Hateful and Offensive Speech Online - Open Challenges at EMNLP 2024. Tutorial Organizing Committee.
2024	8th Workshop on Online Abuse and Harms (WOAH) at NAACL 2024. Organizing Committee.
2023	39th Conference of the Spanish Society for Natural Language Processing. Organizing Committee.
2021	37th Conference of the Spanish Society for Natural Language Processing. Organizing Committee.
2020	36th Conference of the Spanish Society for Natural Language Processing. Organizing Committee.
2020	The 12th Language Resources and Evaluation Conference. Scientific Comittee.
2018	The 9th Workshop on Computational Approaches to Subjectivity, Sentiment and Social Media Analysis. Program Committee.

Organization of International Shared Tasks

2023	MentalRiskEs: Early detection of mental disorders risk in Spanish at the Iberian Languages Evaluation Forum (IberLEF) co-located with the 39th International Conference of the Spanish Society for Natural Language Processing (SEPLN'23).
2021	MeOffendEs: Offensive Language Detection in Spanish Variants at the Iberian Languages Evaluation Forum (IberLEF) co-located with the 37th International Conference of the Spanish Society for Natural Language Processing (SEPLN'21).

2021 EmoEvalES: Emotion Detection for Spanish at the Iberian Languages Evaluation Forum (IberLEF) co-located with the 37th International Conference of the Spanish Society for Natural Language Processing (SEPLN'21).

2020 TASS 2020: Introducing Emotion Detection at the Iberian Languages Evaluation Forum (IberLEF) co-located with the 36th International Conference of the Spanish Society for Natural Language Processing (SEPLN'20).

Professional Activities

Conferences

2024 Area Chair, LREC-COLING

Reviewer Activities

Conferences and Workshops

Empirical Methods in Natural Language Processing (EMNLP)

Association for Computational Linguistics (ACL)

European chapter of the Association for Computational Linguistics (EACL)

North American Chapter of the Association for Computational Linguistics (NAACL)

Computational Linguistics (COLING)

European Conference on Artificial Intelligence (ECAI)

Recent Advances in Natural Language Processing (RANLP)

Language Resources and Evaluation Conference (LREC)

International Conference on Natural Language & Information Systems (NLDB)

Spanish Society for Natural Language Processing (SEPLN)

Workshop on Computational Approaches to Subjectivity, Sentiment & Social Media Analysis (WASSA)

Workshop on Online Abuse and Harms (WOAH)

Student Research Workshop (SRW)

Journals

Artificial Intelligence Research

Information Processing & Management

Expert Systems with Applications

Artificial Intelligence Review

Natural Language Engineering

Procesamiento de Lenguaje Natural, Journal for the Spanish Society of Natural Language Processing

SN Social Sciences

Selected Publications

In Conference Proceedings

2024 **Flor Miriam, Plaza-del-Arco**, Amanda Cercas Curry, Alba Cercas Curry, Gavin Abercrombie, and Dirk Hovy. Angry Men, Sad Women: Large Language Models Reflect Gendered Stereotypes in Emotion Attribution. In *Under review in ACL ARR*. Association for Computational Linguistics, 2024.

2024 **Flor Miriam, Plaza-del-Arco**, Alba Cercas Curry, Amanda Cercas Curry, and Dirk Hovy. Emotion Analysis in NLP: Trends, Gaps and Roadmap for Future Directions. In *Proceedings of the the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*. European Language Resources Association, 2024.

2023 **Flor Miriam Plaza-del-Arco**, Debora Nozza, and Dirk Hovy. Respectful or Toxic? Using Zero-Shot Learning with Language Models to Detect Hate Speech. In *The 7th Workshop on Online Abuse and Harms (WOAH 2023)*, pages 60–68, Toronto, Canada, July 2023. Association for Computational Linguistics.

2023 Giuseppe Attanasio, **Flor Miriam Plaza-del-Arco**, Debora Nozza, and Anne Lauscher. A tale of pronouns: Interpretability informs gender bias mitigation for fairer instruction-tuned machine translation. In *Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing (EMNLP 2023)*. Association for Computational Linguistics, 2023.

2022 **Flor Miriam Plaza-del-Arco**, María-Teresa Martín-Valdivia, and Roman Klinger. Natural Language Inference Prompts for Zero-shot Emotion Classification in Text across Corpora. In *Proceedings of the 29th International Conference on Computational Linguistics (COLING 2022)*, pages 6805–6817, Gyeongju, Republic of Korea, October 2022. International Committee on Computational Linguistics.

2021 **Flor Miriam Plaza-del-Arco**, Arturo Montejo-Ráez, L. Alfonso Ureña-López, and M. Teresa Martín-Valdivia. OffendES: A New Corpus in Spanish for Offensive Language Research. In *Proceedings of the International Conference on Recent Advances in Natural Language Processing (RANLP 2021)*, pages 1096–1108, 2021.

2020 **Flor Miriam Plaza-del-Arco**, Carlo Strapparava, L. Alfonso Ureña López, and M. Teresa Martín-Valdivia. EmoEvent: A Multilingual Emotion Corpus based on different Events. In *Proceedings of the 12th Language Resources and Evaluation Conference (LREC 2020)*, pages 1492–1498, 2020.

In Journals

2022 **Flor Miriam Plaza-del-Arco**, M. Dolores Molina González, L. Alfonso Ureña-López, and M. Teresa Martín-Valdivia. Integrating implicit and explicit linguistic phenomena via multi-task learning for offensive language detection. *Knowledge-Based Systems*, volume 258, page 109965. Elsevier, 2022.

2021 **Flor Miriam Plaza-del-Arco**, Salud María Jiménez-Zafra, Arturo Montejo-Ráez, M. Dolores Molina-González, L. Alfonso Ureña-López, and M. Teresa Martín-Valdivia. Comparing pre-trained language models for Spanish hate speech detection. *Expert Systems with Applications*, volume 166, pages 155–161, 2021.

2020 **Flor Miriam Plaza-del-Arco**, M. Dolores Molina-González, L. Alfonso Ureña-López, and M. Teresa Martín-Valdivia. Detecting Misogyny and Xenophobia in Spanish Tweets Using Language Technologies. *ACM Transactions on Internet Technology*, volume 20, 2020.

2020 **Flor Miriam Plaza-del-Arco**, M. Teresa Martín-Valdivia, L. Alfonso Ureña-López, and Ruslan Mitkov. Improved emotion recognition in Spanish social media through incorporation of lexical knowledge. *Future Generation Computer Systems*, volume 110, pages 1000–1008, 2020.

In Preprint

2023 **Flor Miriam Plaza-del-Arco**, Debora Nozza, and Dirk Hovy. Leveraging Label Variation in Large Language Models for Zero-Shot Text Classification. *arXiv preprint arXiv:2307.12973*, 2023.

See all my publications: `https://scholar.google.es/citations?user=4GqDwGEAAAAJ`

Invited Talks

March 2024 "*Ethics in NLP: Unveiling Gender Stereotypes in Language Models*". T3chFest: Technology festival at University Carlos III of Madrid (Spain).

November 2023 "Are Instruction-Tuned Language Models Suitable as Annotators? Exploring Model Label Variation for Text Classification". EPFL (Lausanne, Switzerland).

November 2023 "*Más Allá de las Palabras: Un Viaje en la Intersección del Lenguaje, Modelos Computacionales y Sociedad*". Spanish Linguistics course. University of Bologna (Italy).

March 2023	"Prompt Engineering in NLP and prompting with LLMs". NLP Master Course at Bocconi University (Milan, Italy).
December 2022	"When Zero-Shot Learning meets Emotion Detection in Text". Bocconi University (Milan, Italy).
November 2022	*"El procesamiento del lenguaje natural desde la perspectiva de los especialistas en lingüística y en ingeniería" (Natural language processing from the perspective of linguistics and computer science specialists)*. Polytechnic University of Madrid, Spain
July 2022	*"Avanzando en la detección del lenguaje ofensivo en español" (Advancing in the detection of offensive language in Spanish)*. NLP Spain community. Online: `https://bit.ly/3BrcLgC`
June 2022	*"OffendES: un nuevo recurso lingüístico en español para combatir el discurso de odio en las RRSS" (OffendES: a new linguistic resource in Spanish to combat hate speech in social networks)*. Round table "Combating hate speech using HLT". Thematic network of excellence funded by the Ministry of Science, Innovation and Universities of Spain. Online: `https://bit.ly/3PKSE16`
November 2021	"Multi-task learning with sentiment, emotion, and target detection to recognize hate speech and offensive language". Institute for Natural Language Processing, University of Stuttgart. Online.

Computer skills

Operating Systems	Linux, Windows
Programming Languages	Python, C++, Java
Deep Learning	PyTorch, Keras, Hugging Face
Python NLP libraries	NLTK, Numpy, Pandas, SciPy, Scikit-learn, SpaCy, SciPy, Matplotlib
Typesetting:	LaTeX, Vim.

Languages

Spanish	Mother tongue
English	Professional proficiency
French & Italian	Basics
Persian	Basics

Teaching Assistantship

2024	**Natural Language Processing. M.S., in Marketing**, Bocconi University (Italy).
2022	**Human–Computer Interaction. B.S., Computer Science**, University of Jaén (Spain).
2021	**Natural Language Processing. B.S., Computer Science**, University of Jaén (Spain).
2021	**Information Retrieval. B.S., Computer Science**, University of Jaén (Spain).
2020	**Operating Systems. B.S., Computer Science**, University of Jaén (Spain).
2020	**Programming. B.S., Industrial Organization**, University of Jaén (Spain).

Student Advising and Mentoring

2021-2022	Co-Supervisor of 3 M.S., students at the University of Stuttgart.
2020-2022	Mentor at the European Project "Empower Girls to Embrace Their Digital and Entrepreneurial Potential (GEM)" No. 01380173 (Girls4STEM-2019)

| 2019-2022 | Co-Supervisor of 2 M.S., students at the University of Jaén. |
| 2019-2022 | Co-Supervisor of 8 B.S., students at the University of Jaén. |

PhD committees

| January 2024 | Miguel Anxo Pérez Vila (University of A Coruña) |

Social Media & Websites

Personal Website: https://fmplaza.github.io/
Google Scholar: https://scholar.google.com/citations?user=4GqDwGEAAAAJ&hl
ORCID: https://orcid.org/0000-0002-3020-5512

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References

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Roman Klinger. University of Bamberg (Germany). E-mail: mail@romanklinger.de