



Ibai Guillén Pacho

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Summary of CV

This section describes briefly a summary of your career in science, academic and research; the main scientific and technological achievements and goals in your line of research in the medium -and long- term. It also includes other important aspects or peculiarities.

PhD Researcher in Artificial Intelligence (AI) at the Universidad Politécnica de Madrid (UPM), where I am a member of the Ontology Engineering Group (OEG), under the supervision of Dr. Oscar Corcho (h-index: 58) and Dr. Carlos Badenes-Olmedo (h-index: 12). I hold a Bachelor's degree in Computer Engineering and Digital Business Transformation from the University of Deusto (UD), and later completed a Master's in AI at UPM. Currently, I am pursuing my doctoral thesis in the field of Natural Language Processing (NLP), specifically focused on interpretable temporal analysis of large-scale text collections. This work is supported by a competitive predoctoral fellowship (PIPF-2022/COM-25947), awarded by the Community of Madrid through a public call (BOCM-20230109-26), in recognition of both my academic trajectory and the potential of my research.

Throughout my research career, I have worked in three research groups: DeustoTech (UD), the Ontology Engineering Group (UPM), and the Department of Computer Science at the University of Turin (UniTo). At DeustoTech, I contributed to a project focused on the application of blockchain technologies for auditing and traceability. Later, at the Ontology Engineering Group, I developed my current research line on interpretable temporal analysis of large text corpora. As part of this work, I was invited in 2023 by UniTo to give a talk on my research, which led to an academic collaboration and a research stay at the institution in 2024. This collaboration resulted in a publication at the Tenth Italian Conference on Computational Linguistics (CLiC-it) 2024, the leading NLP conference in Italy.

My research output includes scientific publications co-authored with members of all the institutions where I have worked, including a journal article in a Q2-ranked publication and several contributions to specialized workshops. In addition, I co-organized the FLARES shared task at IberLEF 2024, an initiative focused on the reliability of Spanish-language news, which allowed me to gain valuable experience in scientific coordination and collaborative work within the NLP community. Altogether, this trajectory reflects a growing research profile (h-index: 3) and an international projection grounded in interdisciplinary and cooperative work.



Ibai Guillén Pacho

Surname(s): **Guillén Pacho**
Name: **Ibai**
ORCID: **0000-0001-7801-8815**
ScopusID: **57220056287**
ORCID: **0000-0001-7801-8815**
Date of birth: **20/05/1999**
Nationality: **Spain**
Email: **ibaiguillenpacho@gmail.com**
Personal web page: **<https://iguillenp.github.io/>**

Current professional situation

Employing entity: Universidad Politécnica de Madrid **Type of entity:** University
Department: Ontology Engineering Group, Escuela Técnica Superior de Ingenieros Informáticos
Professional category: Researcher R1 - Postgraduate non-doctoral researcher
City employing entity: Madrid, Community of Madrid, Spain
Phone: (34) 910673091
Start date: 02/11/2022
Type of contract: Grant-assisted student (pre or post-doctoral, others) **Dedication regime:** Full time
Primary (UNESCO code): 120304 - Artificial intelligence
Performed tasks: Use of natural language processing techniques and language models. Facilitating the temporal analysis of document collections based on the combination of probabilistic models with knowledge representation techniques.

Previous positions and activities

	Employing entity	Professional category	Start date
1	Universidad Politécnica de Madrid	Research Assistant	01/03/2022
2	Everis	Internship	01/09/2020
3	Universidad de Deusto	Research Assistant	01/10/2019

- 1** **Employing entity:** Universidad Politécnica de Madrid **Type of entity:** University
Department: Ontology Engineering Group, Escuela Técnica Superior de Ingenieros Informáticos
City employing entity: Madrid, Community of Madrid, Spain
Professional category: Research Assistant **Leadership and management (Y/N):** No
Start-End date: 01/03/2022 - 31/07/2022
Type of contract: Grant-assisted student (pre or post-doctoral, others)
Performed tasks: Use of natural language processing techniques and language models. Development and study of topics of COVID-19 scientific articles. Analysis of the evolution over time of the use of drugs in the treatment of SARS-CoV-19.



- 2** **Employing entity:** Everis **Type of entity:** Business
Department: Arquitectura
City employing entity: Bilbao, Basque Country, Spain
Professional category: Internship **Leadership and management (Y/N):** No
Start-End date: 01/09/2020 - 28/02/2021
Type of contract: Grant-assisted student (pre or post-doctoral, others)
Performed tasks: Integration and migration of services to Azure cloud infrastructures. Resolution of front-end incidents. Development of APIs and documentation.
- 3** **Employing entity:** Universidad de Deusto **Type of entity:** University
Department: DeustoTech
City employing entity: Bilbao, Basque Country, Spain
Professional category: Research Assistant **Leadership and management (Y/N):** No
Start-End date: 01/10/2019 - 30/06/2020
Type of contract: Grant-assisted student (pre or post-doctoral, others)
Dedication regime: Part time
Performed tasks: Development of a platform for auditing open data on blockchain. Development of smart-contracts on the Ethereum network. Development of a plugin for the CKAN platform.



Education

University education

1st and 2nd cycle studies and pre-Bologna degrees

1 University degree: Higher degree

Name of qualification: Master's Degree in Artificial Intelligence

Degree awarding entity: Universidad Politécnica de Madrid **Type of entity:** University

Date of qualification: 02/11/2022

Average mark: Good

2 University degree: Higher degree

Name of qualification: Degree in Computer Engineering

Degree awarding entity: Universidad de Deusto **Type of entity:** University

Date of qualification: 08/07/2021

Average mark: Good

3 University degree: Higher degree

Name of qualification: Specialisation in Digital Business Transformation

Degree awarding entity: Universidad de Deusto **Type of entity:** University

Date of qualification: 08/07/2021

Average mark: Good

Specialised, lifelong, technical, professional and refresher training (other than formal academic and healthcare studies)

Training title: Scopus Online Workshop

Awarding entity: Fundación Española para la Ciencia y la Tecnología (FECYT)

End date: 24/03/2023

Duration in hours: 9 hours

Language skills

Language	Listening skills	Reading skills	Spoken interaction	Speaking skills	Writing skills
Basque	B2	B2	B2	B2	B2
English	B2	B2	B2	B2	B2
Spanish	C2	C2	C2	C2	C2

Scientific and technological experience

Scientific or technological activities

R&D projects funded through competitive calls of public or private entities

- 1** **Name of the project:** Publicación y uso de datos abiertos enlazados del Instituto Nacional de Estadística (INE-LinkedStats)
Entity where project took place: Universidad Politécnica de Madrid **Type of entity:** University
City of entity: Madrid, Community of Madrid, Spain
Funding entity or bodies: Instituto Nacional de Estadística **Type of entity:** Organismo Público
City funding entity: Spain
Code according to the funding entity: Exp. 2021N1013002
Start-End date: 12/05/2023 - 11/05/2026
- 2** **Name of the project:** Sistema de Información Geográfica interoperable y semánticamente enriquecido para el análisis y la gestión del TRANSporte público (SIGTRANS-UPM)
Entity where project took place: Universidad Politécnica de Madrid **Type of entity:** University
City of entity: Madrid, Community of Madrid, Spain
Funding entity or bodies: Ministerio de Ciencia e Innovación **Type of entity:** Institución
Name of the programme: Retos Prueba de Concepto
Code according to the funding entity: PDC2021-120917-C22
Start-End date: 01/12/2021 - 31/12/2023
Participating entity/entities: Universidad Politécnica de Madrid; Universidad de La Coruña
- 3** **Name of the project:** RELIANCE – REsearch Lifecycle mAnagement for Earth Science Communities and CopErnicus users in EOSC
Entity where project took place: Universidad Politécnica de Madrid **Type of entity:** University
City of entity: Madrid, Community of Madrid, Spain
Funding entity or bodies: Unión Europea **Type of entity:** Institución
Name of the programme: H2020-101017501
Start-End date: 01/01/2021 - 30/06/2023
Participating entity/entities: ALPHA; Instituto de Ciencia y Tecnología de Polímeros; Universidad de Sevilla; INGV; MEE0; PSNC; T2; UiO; Universidad Politécnica de Madrid
- 4** **Name of the project:** Espacio de datos y sistemas inteligentes de ayuda a la decisión para pandemias, con apoyo a personal sanitario, epidemiológico, investigador, autoridades sanitarias y pacientes (MadridDataSpace4Pandemics-CM)
Entity where project took place: Universidad Politécnica de Madrid **Type of entity:** University



City of entity: Madrid, Community of Madrid, Spain

Funding entity or bodies:

Consejería de Educación, Universidades, Ciencia y Portavocía

Dirección General de Investigación e Innovación Técnica

Comunidad de Madrid

Type of entity: Institución

Name of the programme: REACT-EU

Start-End date: 01/01/2020 - 31/12/2022

Participating entity/entities: Universidad Politécnica de Madrid

5 Name of the project: AUDABLOK

Entity where project took place: Universidad de Deusto

Type of entity: University

City of entity: Bilbao, Basque Country, Spain

Name principal investigator (PI, Co-PI....): Mikel Emaldi Manrique; Koldo Zabaleta Fernández; Diego López de Ipiña González de Artaza

Funding entity or bodies:

Gobierno Vasco

Type of entity: Institución

Name of the programme: HAZITEK

Code according to the funding entity: ZL-2019/00203

Scientific and technological activities

Scientific production

Publications, scientific and technical documents

- 1** Robiert Sepúlveda Torres; Alba Bonet Jover; Isam Diab Lozano; Ibai Guillén Pacho; Isabel Cabrera de Castro; Carlos Badenes Olmedo; Estela Saquete Boro; M. Teresa Martín Valdivia; Patricio Martínez Barco; L. Alfonso Ureña López. Overview of FLARES at IberLEF 2024: Fine-grained Language-based Reliability Detection in Spanish News. Procesamiento del Lenguaje Natural. 73, pp. 369 - 379. Sociedad Española para el Procesamiento del Lenguaje Natural, 01/09/2024.

Type of production: Scientific paper

Format: Journal

Corresponding author: No

- 2** Ibai Guillén Pacho; Carlos Badenes Olmedo; Óscar Corcho García. Dynamic topic modelling for exploring the scientific literature on coronavirus: an unsupervised labelling technique. International Journal of Data Science and Analytics. Springer Nature, 13/08/2024.

DOI: 10.1007/s41060-024-00610-0

Type of production: Scientific paper

Format: Journal

Corresponding author: Yes

Works submitted to national or international conferences

- 1** **Title of the work:** The Vulnerable Identities Recognition Corpus (VIRC) for Hate Speech Analysis
Name of the conference: Tenth Italian Conference on Computational Linguistics
Corresponding author: Yes
City of event: Pisa, Toscana, Italy
Date of event: 04/12/2024
End date: 06/12/2024
Organising entity: Italian Association of Computational Linguistics
Ibai Guillén Pacho; Arianna Longo; Marco Antonio Stranisci; Viviana Patti; Carlos Badenes Olmedo.
- 2** **Title of the work:** A Recommender System that safeguards the user privacy through Federated Learning
Name of the conference: 6th International Conference on Smart and Sustainable Technologies (SpliTech)
Corresponding author: Yes
Date of event: 08/09/2021
End date: 11/09/2021
Organising entity: International Conference on Smart and Sustainable Technologies
Ibai Guillén; Rubén Sánchez-Corcuera; Diego Casado-Mansilla. pp. 01 - 05.
- 3** **Title of the work:** Blockchain-mediated Collaboration of Citizens in Open Government Processes
Name of the conference: 5th International Conference on Smart and Sustainable Technologies (SpliTech)
Corresponding author: No
Date of event: 23/09/2020
End date: 26/09/2020
Organising entity: International Conference on Smart and Sustainable Technologies
Mikel Emaldi; Koldo Zabaleta; Ibai Guillén; Diego López-de-Ipiña. pp. 1 - 6.

Works submitted to national or international seminars, workshops and/or courses

- 1** **Title of the work:** PODIO: A Political Discourse Ontology
Name of the event: International Conference on Knowledge Engineering and Knowledge Management (EKAW 2024) Workshops, Tutorials, Posters and Demos
Corresponding author: Yes
City of event: Amsterdam, Noord-Holland, Holland
Date of event: 26/11/2024
End date: 28/11/2024
Organising entity: International Conference on Knowledge Engineering and Knowledge Management
Ibai Guillén Pacho; Ana Iglesias Molina; Carlos Badenes Olmedo; Oscar Corcho García.
- 2** **Title of the work:** Leveraging Temporal Analysis to Predict the Impact of Political Messages on Social Media in Spanish
Name of the event: Doctoral Symposium on Natural Language Processing 2024
Corresponding author: Yes
City of event: Valladolid, Castile and León, Spain
Date of event: 26/09/2024
Organising entity: Sociedad Española para el Procesamiento del Lenguaje Natural
Ibai Guillén Pacho.



- 3** **Title of the work:** PODIO: POLitical DIscourse Ontology
Name of the event: COMETE (COMputer SciEnce DeparTmEnt) PhD Workshop 2024
Corresponding author: Yes
City of event: Torino, Piemonte, Italy
Date of event: 05/04/2024
End date: 05/04/2024
Organising entity: Computer Science department, of **Type of entity:** University Department
the University of Turin
Ibai Guillén Pacho; Carlos Badenes Olmedo; Ana Iglesias Molina; Oscar Corcho García.
- 4** **Title of the work:** Detecting Causes of Discourse Evolution
Name of the event: Teaching and Learning Language Technologies (text and speech) in the light of
Generative Artificial Intelligence
Corresponding author: Yes
City of event: Madrid, Community of Madrid, Spain
Date of event: 07/03/2024
End date: 08/03/2024
Organising entity: EELISA InnoCORE
Ibai Guillén Pacho.
- 5** **Title of the work:** Agent-guided Knowledge Engineering
Name of the event: Knowledge Prompting Hackathon
Corresponding author: Yes
City of event: Londres, Inner London, United Kingdom
Date of event: 07/08/2023
End date: 10/08/2023
Organising entity: King's College **Type of entity:** University
Ibai Guillén Pacho; Carlos Golvano Díaz; Ryan Brate; Yannick Brunink.
- 6** **Title of the work:** Evolution of political discourse in Madrid: a case study in the transport domain
Name of the event: 2nd Cardiff Natural Language Processing Workshop
Corresponding author: Yes
City of event: Cardiff, East Wales, United Kingdom
Date of event: 26/06/2023
End date: 27/06/2023
Organising entity: Cardiff NLP Group **Type of entity:** University Department
Ibai Guillén Pacho; Carlos Badenes Olmedo; Oscar Corcho García.
- 7** **Title of the work:** Qichwabase
Name of the event: Summer Datathon on Linguistic Linked Open Data 2022
City of event: Cercedilla, Community of Madrid, Spain
Date of event: 30/05/2022
End date: 03/06/2022
Organising entity: COST (European Cooperation in **Type of entity:** Associations and Groups
Science and Technology)



Other achievements

Stays in public or private R&D centres

- 1** **Entity:** Università Degli Studi Di Torino **Type of entity:** University
Faculty, institute or centre: Dipartimento di Informatica
City of entity: Torino, Piemonte, Italy
Start-End date: 01/04/2024 - 07/07/2024 **Duration:** 3 months - 7 days
Goals of the stay: Doctorate
Type of stay: Investigación
- 2** **Entity:** Università Degli Studi Di Torino **Type of entity:** University
Faculty, institute or centre: Dipartimento di Informatica
City of entity: Torino, Piemonte, Italy
Start-End date: 20/11/2023 - 22/11/2023 **Duration:** 3 days
Goals of the stay: Guest
Narrative explanation: Formalising political speech with ontologies, an approach to exploit the discourse of different parties in different media over time.
Type of stay: Investigación

Obtained grants and scholarships

Name of the grant: Ayuda para la contratación de personal investigador predoctoral en formación
City awarding entity: Community of Madrid, Spain
Aims: Pre-doctoral
Awarding entity: Consejería de Educación, Ciencia y Universidades
Conferral date: 01/01/2024 **Duration:** 4 years
End date: 31/12/2027
Entity where activity was carried out: Universidad Politécnica de Madrid
Faculty, institute or centre: Escuela Técnica Superior de Ingenieros Informáticos