



Lucía Ormaechea Grijalba

PH.D. CANDIDATE · NLP RESEARCHER · COMPUTATIONAL LINGUIST

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Experience

Research & Teaching Assistant

Geneva, Switzerland

UNIVERSITÉ DE GENÈVE

Dec. 2020 - Present

- Contributed to **BabelDr** [↗](#):
 - Developed and enhanced a **specialized Automatic Speech Recognition (ASR)** system based on Kaldi.
 - Deployed a **multi-container Docker application** to perform ASR inside the **BabelDr medical translation device**.
- Participated in **PROPICTO** [↗](#):
 - Compilation of **complex-simple sentence pairs** from comparable corpora to be further used for the **generation of simplified texts**.
 - Front-end development and maintenance of the **project's website**.
- Collaborated as an assistant in **Localization** [↗](#) (M.A. Course): preparation of course materials, assignment grading, assistance and support to students during practical sessions.

NLP Research Intern

Grenoble, France

LABORATOIRE D'INFORMATIQUE DE GRENOBLE (LIG)

Feb. 2020 - Sep. 2020

- Participated in BabelDr: development of a **Kaldi-based ASR system for medical-related applications**.
- Main tasks:**
 - Created a complete pipeline for injecting **grammar-based language models** into the Kaldi Speech Recognition Toolkit.
 - Trained **HMM-DNN-based acoustic models** using open-source corpora.
 - Developed a **Kaldi web-server API** for ASR applications, containerized ASR-related tools using Docker.
 - Conducted a prototype testing and evaluation.

Translation Intern

Remote Working

NEW YORK HABITAT

Jul. 2018 - Sep. 2018

- Translated **ENG > ESP** commercial texts: video transcriptions – travel articles – apartment reviews – client testimonials.
- Selected publications:**
 - Bajo la sombra del cine: una guía del cine en Nueva York (parte 1: Manhattan)* [↗](#), (2018).
 - El cine de los distritos: un recorrido por el cine de Nueva York (parte 2)* [↗](#), (2018).
 - Guía de viaje de verano: nuestros mejores planes en Londres* [↗](#), (2018).

Undergraduate Research Assistant

Pamplona, Spain

UNIVERSIDAD DE NAVARRA

Sep. 2016 - Jun. 2017

- Collaborated as a research student at the **Department of Philology** [↗](#)
- Main tasks:**
 - Development of educational materials aiming to automatically evaluate knowledge of Spanish language in L2 learners.
 - One-on-one tutorial assessment on academic writing.
 - Proofreading of academic papers, document classification.

Education

Ph.D. in Multilingual Information Processing

Geneva, Switzerland

UNIVERSITÉ DE GENÈVE – UNIVERSITÉ GRENOBLE-ALPES

Jun. 2022 - present

- Currently pursuing a **joint Ph.D.** between the **Département de Translation Technology** [↗](#) at UNIGE, and the **GETALP team** [↗](#), at UGA.
- Ph.D. Project:** *Exploring Automatic Spoken Language Simplification in Low-Resource Conditions* [↗](#)

M.Sc. in Natural Language Processing

Paris, France

INSTITUT NATIONAL DES LANGUES ET CIVILISATIONS ORIENTALES (INALCO) – UNIVERSITÉ SORBONNE-NOUVELLE (PARIS 3)

Sep. 2018 - Sep. 2020

- Graduated with High Honors.**
- Coursework:** Scripting (Bash, Python, Perl) – Object-Oriented Programming (C++, Java) – Statistical Methods for Corpus Exploitation – Text Mining – Convolutional Neural Networks (Keras) – Corpus Linguistics – Mark-up Languages (XML, XSLT) – Databases (SQL, Neo4J).
- Master's Thesis:** *Mise en place d'un système robuste de reconnaissance automatique de la parole appliqué au domaine médical* [↗](#) **GPA: 19/20**

B.A. in Hispanic Philology

Pamplona, Spain

UNIVERSIDAD DE NAVARRA

Sep. 2014 - Jun. 2018

- Extraordinary End-of-Degree Award Nominee.**
- Coursework:** Lexicology – Semantics – Phonetics – Phonology – Morphology – Syntax – Discourse Analysis.

Teaching & Assistantships

2021-2022	M.A. in Translation, M.A. in Multilingual Communication Technology – <i>Teaching Assistant</i> , Localization (L. Morado Vázquez), Université de Genève
2017	Workshops on Spanish Language – <i>Instructor</i> , Spanish grammar courses for non-native undergraduate students, Universidad de Navarra

Languages

	Listen	Read	Speak	Write	
Spanish	Native	Native	Native	Native	
English	C1	C1	C1	C1	<i>Advanced Certificate in English (CAE)</i>
French	C1	C1	C1	C1	<i>Diplôme Approfondi de Langue Française (DALF)</i>
Italian	B1	B1	A2	A2	

Software Skills

Programming	Python, Bash (<i>proficient</i>) – Perl, SQL (<i>comfortable</i>) – C++, Java (<i>some experience</i>)
Libraries	OpenFST – OpenSSH – Flask – Keras – Speechbrain – Pandas – NLTK – SpaCy – OpenNMT
Web Development	HTML – CSS – Jekyll – XML – XSLT – JavaScript
Tools	Kaldi – SRILM – Git – Vim – LaTeX – Docker – Praat – Nginx
Operating Systems	GNU/Linux (Ubuntu, Debian, Linux Mint) – Windows – Android

Scholarships & Awards

2020	Candoc Research Fellowship – Granted by the Swiss National Science Foundation (SNSF)
2013	Runner-up at the 4th Inter-University Debate Tournament ↗ – Universidad Pública de Navarra

Selected Publications

2023	Lucía Ormaechea , Nikos Tsourakis, Didier Schwab, Pierrette Bouillon and Benjamin Lecouteux. <i>Simple, Simpler and Beyond: A Fine-Tuning BERT-Based Approach to Enhance Sentence Complexity Assessment for Text Simplification</i> . In: Proceedings of the 6 th International Conference on Natural Language and Speech Processing (ICNSLP), Trento (Italy). To appear .
2023	Lucía Ormaechea and Nikos Tsourakis. <i>Extracting Sentence Simplification Pairs from French Comparable Corpora Using a Two-Step Filtering Method</i> ↗ . In: Proceedings of the 8 th Swiss Text Analytics Conference, Neuchâtel (Switzerland).
2023	Lucía Ormaechea , Pierrette Bouillon, Maximin Coavoux, Emmanuelle Esperança-Rodier, Johanna Gerlach <i>et al.</i> <i>PROPICTO: Developing Speech-to-Pictograph Translation Systems to Enhance Communication Accessibility</i> ↗ . In: Proceedings of the 24 th Annual Conference of The European Association for Machine Translation (EAMT), Tampere (Finland).
2022	Lucía Ormaechea , Benjamin Lecouteux, Pierrette Bouillon and Didier Schwab. <i>A Tool for Easily Integrating Grammars as Language Models into the Kaldi Speech Recognition Toolkit</i> ↗ . In: ESSLI 2022 - Workshop on Bridges and Gaps between Formal and Computational Linguistics, Galway (Ireland).
2022	Cécile Macaire, Lucía Ormaechea and Adrien Pupier. <i>Une chaîne de traitements pour la simplification automatique de la parole et sa traduction automatique vers des pictogrammes</i> ↗ . In: 29 ^{ème} Conférence sur le Traitement Automatique des Langues Naturelles (TALN/RÉCITAL), Avignon (France).
2021	Lucía Ormaechea , Pierrette Bouillon, Johanna Gerlach, Benjamin Lecouteux, Didier Schwab and Hervé Spechbach. <i>Reconnaissance vocale du discours spontané pour le domaine médical</i> ↗ . In: Journée Commune AFIA/TLH, Remote event.

Toolkits & Datasets

2023	WiViCo (Wikipedia Vikidia Corpus) ↗ – A general-purpose parallel sentence simplification dataset for French, automatically extracted by using a two-step filtering method to mine register-diversified comparable corpora.
2021	kaldi-grammar-compiler ↗ – Language modeling tool designed to transform fixed grammars into compiled Finite State Transducers (FSTs). This allows to make them readable as language models by the Kaldi Speech Recognition Toolkit.
2021	MeDiCo (A Medical Discourse Corpus in French) ↗ – Crowdsourced artificial spoken dataset including utterances related to the medical consultation domain.

Academic Service

- 2023 **Bruit de fond ou valeur ajoutée ? Gérer le bruit lors des traitements informatiques des corpus linguistiques** [↗](#) – Seminar
jointly organized by Université Grenoble-Alpes and Sapienza Università di Roma – **Member of Scientific Committee**
- 2018 **5th Forum of the Association for Discourse Linguistics** [↗](#) – Held at Instituto de Cultura y Sociedad, Universidad de Navarra –
Local Organizer

Certifications

3rd Advanced Language Processing School (ALPS) [↗](#)

UNIVERSITÉ GRENOBLE-ALPES – NAVER LABS EUROPE

Winter school featuring advanced lectures, social and poster sessions covering a wide range of hot topics in NLP.

Winter School

January 2023

Research Methods in Translation & Interpreting Studies (ReMeTIS II): Specific Research & Scientific Communication Skills [↗](#)

UNIVERSITÉ DE GENÈVE

Second part of the ReMeTIS programme: Corpus Construction – Quantitative Data Analysis – Career & Publication Strategies.

Online Course

December 2022

Research Methods in Translation & Interpreting Studies (ReMeTIS I): Foundations & Data Analysis [↗](#)

UNIVERSITÉ DE GENÈVE

First part of the ReMeTIS programme: Qualitative Methods – Mixed Methods – Research Ethics.

Online Course

December 2022

Sequence Models [↗](#)

COURSERA, DEEPLARNING.AI

Deep Learning Specialization (V): Recurrent Neural Networks – Long Short Term Memory – Attention Models.

Online Course

November 2022

Structuring Machine Learning Projects [↗](#)

COURSERA, DEEPLARNING.AI

Deep Learning Specialization (III): Error Analysis in Machine Learning Systems – Performance Improvement Strategies.

Online Course

October 2022

Improving Deep Neural Networks: Hyperparameter Tuning, Regularization & Optimization [↗](#)

COURSERA, DEEPLARNING.AI

Deep Learning Specialization (II): Optimization Algorithms – Hyperparameter Tuning.

Online Course

October 2022

Neural Networks & Deep Learning [↗](#)

COURSERA, DEEPLARNING.AI

Deep Learning Specialization (I): Deep Learning Foundations – Neural Network Architectures.

Online Course

October 2022

33rd European Summer School in Logic, Language & Information (ESSLI) [↗](#)

NATIONAL UNIVERSITY OF IRELAND GALWAY

Interdisciplinary summer school involving courses and workshops in logic, linguistics and computer science.

Summer School

August 2022

2nd Advanced Language Processing School (ALPS) [↗](#)

UNIVERSITÉ GRENOBLE-ALPES – NAVER LABS EUROPE

Winter school featuring advanced lectures, social and poster sessions covering a wide range of hot topics in NLP.

Winter School

January 2022

Personal Data Protection [↗](#)

INSTITUT NATIONAL DE RECHERCHE EN SCIENCES ET TECHNOLOGIES DU NUMÉRIQUE (INRIA)

MOOC Course introducing data confidentiality regulations and privacy protection.

MOOC Course

May 2020

Introduction to Corpus Linguistics [↗](#)

UNIVERSITÉ GRENOBLE-ALPES (UGA)

MOOC Course introducing corpus linguistics and its many implementations in lexicology, discourse analysis and NLP.

MOOC Course

June 2019

Other Achievements

Projet Boîte à Outils [↗](#)

INSTITUT NATIONAL DES LANGUES ET CIVILISATIONS ORIENTALES (INALCO) / UNIVERSITÉ SORBONNE-NOUVELLE (PARIS 3)

A quantitative research focused on morphosyntactic patterns found on the French newspaper Le Monde.

Master's Project

May 2019

Projet Documents Structurés [↗](#)

INSTITUT NATIONAL DES LANGUES ET CIVILISATIONS ORIENTALES (INALCO) / UNIVERSITÉ SORBONNE-NOUVELLE (PARIS 3)

A set of programming exercises related to XML and information extraction.

Master's Project

May 2019