# Fanny Ducel

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### Education

# Master in Linguistics and Computer Science

2021 -

Sorbonne Université

Paris, France

- M2: Ongoing. Thesis on the Evaluation of stereotypical biases in auto-regressive language models.
- M1: Valedictorian. Thesis on the Analysis of claims in NLP articles by unsupervised learning.

Bachelor in Language Sciences, Computer Science specialization, with highest honours 2018 – 2021 Sorbonne Université Paris, France

# Research Experience

# Research Internship (M2 - 35h/week)

March 2023 - August 2023

LORIA, supervised by Karën Fort and Aurélie Névéol

Nancy, France

- Achieved state of the art on stereotypical biases in autoregressive language models with a sociological approach
- Experiments with manipulation and fine-tuning of masked and autoregressive language models for bias assessment and limitations of current methods
- Participation in the international research project MultiCrowsPairs, along with 20 other researchers and students from 8 different countries

### Research Assistant (Part-time CDD - 17h/week)

September 2022

CERES, Sorbonne Université, supervised by Gaël Lejeune

Paris, France

• Participation in a project to map researchers according to their publications: wrote Python scripts to test new vectorization and clustering techniques, created graphs in Gephi, reorganized the Github repository with proper documentation

### Research Internship (M1 - 35h/week)

July 2022 - September 2022

LORIA, supervised by Karën Fort and Maxime Amblard

Nancy, France

- Establishing a state of the art on the linguistic concepts of *hedging* and *claims*
- Creation and pre-processing of ACL articles corpus
- Extraction of *claims* in the corpus and classification by using *clustering* methods in Python
- Evaluation of unsupervised learning methods

### Research Internship (L3 - 35h/week)

June 2021 - August 2021

LORIA, supervised by Karën Fort, Gaël Lejeune and Yves Lepage

Nancy, France

- Manual annotation of NLP articles (TALN, LREC, ACL)
- Automatic classification of these articles depending on whether the studied language is mentioned
- Work subsequently accepted at LREC and TALN

# Tutor in Computer Science for Language Science Students

September 2021 - March 2023

Paris, France

• Shifts of 3 hours per week with students of the Bachelor in Language Sciences needing help to understand and complete their courses, exercises and projects in Python programming, Web development (HTML and CSS), language engineering (TXM, Antconc, GATE), first order logic, ...

# Peer-reviewing

Sorbonne Université

- Secondary reviewer for ACL 2023 (1 article)
- Secondary reviewer for TALN 2023 (1 article)

#### **Publications**

### International peer-reviewed conferences

Do we Name the Languages we Study? The #BenderRule in LREC and ACL articles. Fanny Ducel, Karën Fort, Gaël Lejeune, Yves Lepage. LREC 2022 - International Conference on Language Resources and Evaluation (LREC), Jun 2022, Marseille, France. - CORE C, QUALIS B2

Participation: Oral plenary presentation at LREC, manual annotation of NLP articles, constitution and pre-processing of a corpus of articles from ACL Anthology, implementation of automatic classifiers in Python, analysis and formatting of results, writing of the article with an ethical approach calling for diversity, realization of the slides for the presentation

# National peer-reviewed conferences

Langues « par défaut » ? Analyse contrastive et diachronique des langues non citées dans les articles de TALN et d'ACL. Fanny Ducel, Karën Fort, Gaël Lejeune, Yves Lepage. Conférence sur le Traitement Automatique des Langues Naturelles (TALN), Jun 2022, Avignon, France.

Participation: This is a second part of the work presented at LREC, so the tasks are very similar, but on different data. Production and presentation of the poster at TALN and same tasks as for LREC.

### Submitted

The Elephant in the Room: Analyzing the Presence of Big Tech in Natural Language Processing Research. Mohamed Abdalla, Jan Philip Wahle, Terry Ruas, Aurélie Névéol, Fanny Ducel, Saif Mohammad, Karën Fort.

Participation: Frequent meetings and discussions with 6 other scientists from 3 different countries involved in the project. Extraction, analysis and formatting of raw data by Python scripts, manual annotations, proofreading and corrections of the article.

#### **Master Thesis**

Analyse des claims dans les articles de Traitement Automatique des Langues à l'aide d'une méthode par apprentissage non supervisé. Fanny Ducel. Available on https://github.com/FannyDucel/MemoireM1Claims/blob/master/ducel\_fanny\_memoirem1.pdf.

Languages: Python, SQL, SPARQL, Voice XML, UML, HTML, CSS, Java, C++, LATEX, Markdown

NLP tools: TXM, Antconc, Unitex, Praat, GREW-match, GATE, HTK, MBROLA, espeak, audeep

Other tools: Neo4j, GitHub, Apache Solr, GANT, Agile (Scrum), Gephi, Twitter API

Python libraries: Scikit-learn, SpaCy, NLTK, CoreNLP, Gensim, Pandas, LangChain, Pytorch

# Other Interests

Member of the *Queer in AI* community: Interactions and resources exchanges for a better inclusivity and diversity in the field of Artificial Intelligence.

Trumpet Player: Member of the School of Arts of Orly for 8 years.