### Gaël Guibon

## PhD. in Computer Science and Natural Language Processing

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19.11.1987 in Paris

#### **PROFILE**

Natural Language Processing, Machine Learning, Information Extraction, Computational Linguist, Emotion Recognition.

#### EXPERIENCE

### Postdoc Researcher in Computer Science

July 2020 - july 2021

Deep learning for emotion recognition in chat messages.

Team S2A in LTCI laboratory of Télécom Paris. Team Plateau IA in Research & Innovation dpt. of SNCF.

### Postdoc Researcher in Computer Science

june 2019 – june 2020

Lexical Evolution of French.

Inria, team-project ALMAnaCH, Paris

### PhD in Computer Science

march 2016 - may 2019.

Title: Automatic and Adaptative Emoji Recommendation.

CIFRE (mix academic and company) between the laboratory LIS-CNRS UMR 7020 (previously named LSIS-CNRS UMR 7296) and Caléa Solutions company, Marseille

### Short-term Research Engineer at ENS

february 2016

CNRS-LaTTiCe, École Nationale Supérieure (ENS), Montrouge

API and web application for Old French dependency parsing

## **Engineer at CNRS**

October 2014 - october 2015

CNRS-INIST, Institut Nationale de l'Information Scientifique et Technique, Nancy

- Data pre-treatments using machine learning for terminology extraction
  - Collaborating on TermSuite adaptation to data
  - Workshop animation to UniteX introduction

### Research Laboratory Internship

Summer 2014

CNRS-LIGM, Institut d'électronique et d'informatique Gaspard-Monge, Marne-la-Vallée

- Creation of a dependency parser for Old French.
- Dependency grammars usage.

### Research Laboratory Internship

Spring 2014

CNRS-LaTTiCe, Université de Paris III Sorbonne-Nouvelle, Montrouge

- Creation of a Part-of-Speech tagger for Old French.
  - Using Conditional Random Fields.

## **PUBLICATIONS**

### Journal

Guibon, Labeau, Lefeuvre, Clavel 22: Few-Shot Emotion Recognition in Conversation with Sequential Prototypical Networks. Elsevier, Software Impacts 2022, volume 12.

### **International Conferences**

Guibon, Labeau, Flamein, Lefeuvre, Clavel 21: Few-Shot Emotion Recognition in Conversation with Sequential Prototypical Networks. In the 2021 Conference on Empirical Methods in Natural Language Processing (EMNLP 2021 - rang A).

Guibon, Labeau, Flamein, Lefeuvre, Clavel 21: Meta-learning for Classifying Previously Unseen Data Source into Previously Unseen Emotional Categories. In the 1st Workshop on Meta Learning and Its Applications to Natural Language Processing (MetaNLP @ ACL 2021).

Guibon, Sagot 20: OFrLex: A Computational Morphological and Syntactical Lexicon for Old French. In 12th Language Resources and Evaluation Conference (LREC 2020 -  $\mathbf{rang}$  C).

Guibon, Courtin, Gerdes, Guillaume 20: When Collaborative Treebank Curation Meets Graph Grammars. In 12th Language Resources and Evaluation Conference (LREC 2020 -  $\mathbf{rang}$  C).

Guibon, Ermakova, Seffih, Firsov, Le Noé-Bienvenu 19: Multilingual Fake News Detection with Satire on Vaccination Topic. In 20th International Conference on Computational Linguistics and Intelligent Text Processing (CICLING 2019 - rang B).

Espinasse, Fournier, Chifu, Guibon, Azcurra and Macé 19: On the Use of Dependencies in Relation Classification of Text with Deep Learning. In 19th International Conference on Computational Linguistics and Intelligent Text Processing

(CICLING 2019 - rang B).

Guibon, Ochs, Bellot 18: Emoji recommendation in private instant messages. In Proceedings of the 33rd Annual ACM Symposium on Applied Computing (pp. 1821-1823) (SAC 2018 - rang B). Best Poster Award for SONAMA track Guibon, Ochs, Bellot 18: LIS at SemEval-2018 Task 2: Mixing Word Embeddings and Bag of Features for Multilingual Emoji Prediction. In SemEVAL 2018.

Guibon, Ochs, Bellot 18: From Emoji Usage to Categorical Emoji Prediction. In 19th International Conference on Computational Linguistics and Intelligent Text Processing (CICLING 2018 - rang B), Hanoï. Best Verifiability, Reproducibility, and Working Description Award

Guibon, Tellier, Constant, Prevost, Gerdes 15: Searching for Discriminative Metadata on Heterogenous Corpora, 14th Treebank and Language Theory (TLT), Warsaw

Guibon, Tellier, Constant, Prévost, Gerdes 14: Parsing Poorly Standardized Language Dependency on Old French, 13th Treebank and Language Theory (TLT), Tubingen.

### **National Conferences**

Guibon, Ochs, Bellot 18 : De l'impact des emojis sur les sentiments à une recommandation pertinente. Workshop Affect Compagnon Artificiel Interaction (WACAI 2018), Ile de porquerolles .

Guibon, Ochs, Bellot 17 : Prédiction automatique d'emojis sentimentaux, 14ème Conférence en Recherche d'Information et Application (CORIA), Marseille.

Guibon, Ochs, Bellot 16: From Emojis to Sentiment Analysis, Workshop Affect Compagnon Artificiel Interaction (WACAI 2016), Brest.

Guibon, Tellier, Prévost, Constant, Gerdes 15 : Analyse syntaxique de l'ancien français : quelles propriétés de la langue influent le plus sur la qualité de l'apprentissage?, 22ème Traitement Automatique des Langues Naturelles (TALN), Caen.

### Other Publications

Guibon, Ochs, Bellot 17 : Une plateforme de recommandation automatique d'emojis. Traitement Automatique du Langage Naturel (TALN), Orléans. (Démo)

Guibon 16 : SOFA : Une plateforme d'analyse syntaxique en ligne pour l'ancien français, 23ème Traitement Automatique du Langage Naturel (TALN), Paris. (Démo)

## Seminars / invited talks

Inria's Developper meetup (February 22th 2022, and October 29th 2019): VueJS and Interactive slides https://sed-paris.gitlabpages.inria.fr/developer-meetups/

Talk at Paris-Nanterre University (October 26th 2021) : De l'enrichissement de données diachroniques à l'exploitation de données privées

Talk at LTCI laboratory from Télécom Paris (September 30th 2021) on few-shot learning in conversational context

Talk at PhD students' seminar from LIS-CNRS laboratory (march 2018) : Apprentissage non-supervisé pour l'orientation de la prédiction multi-classe d'emojis (FaceEmojis)

Talk at the LaTTiCe-CNRS laboratory (February 8th 2016) : Exploration de corpus d'ancien français : métadonnées les plus discriminantes et influence sur la qualité l'apprentissage

## Scientific Popularization

Scientific Popularization Article on Meta-Learning. Le méta-apprentissage fait ses premiers pas en traitement automatique du langage. – Data Analytics Post – par Pierre Vandeginste.

https://dataanalyticspost.com/meta-apprentissage-traitement-automatique-langage/

## **TEACHING**

Natural Language Processing (IA 717, lab project creation and supervision.) https://www.telecom-paris.fr/fr/masteres-specialises/formation-intelligence-artificielle Machine Learning for Natural Language Processing (SE364, original content for labs, lab assistant supervisor. Projects and courses in English.) https://nlp-ensae.github.io/

ENSAE 2022 : 9H TD

Machine Learning for Natural Language Processing (SE364, original content for labs and 3 courses. Projects and courses in English.) https://nlp-ensae.github.io/

ENSAE 2021: 4H30 CM et 9H TD

Introduction to Programming and Python (Original Content. Courses in English) https://github.com/gguibon/

essec-python-1

ESSEC Business School 2020 : Global BBA 2nd year : 25H CM et TD. Students' Evaluation : 4/5 (+0.68 compared to 2019)

Machine Learning for Natural Language Processing (SE364, original content for the 3rd lab and projects, courses in English) https://nlp-ensae.github.io/

ENSAE 2020: 4H30 TD

Introduction to Python (original content) https://github.com/gguibon/essec-python-1

ESSEC: Global BBA 2nd year: 25h

JavaEE (original content) https://github.com/gguibon/CoursesJavaEE

Aix-Marseille University 2018-2019: Master 2 Computer Science: 59h

Introduction to Deep Learning

Aix-Marseille University 2017-2018: LSIS-CNRS: Master 2 Research DiMaG: 8h

JavaEE (Contenu original) https://github.com/gguibon/CoursesJavaEE

Aix-Marseille University 2017-2018: Master 2 Computer Science: 64h

Introduction to Python (original content) https://github.com/gguibon/CoursesPython

Aix-Marseille University 2017-2018: Master 2 Computer Science: 8h

Databases in Java (original content) https://github.com/gguibon/teaching-isi-projet

Aix-Marseille University 2016-2017: Master 1 Computer Science: 20h

#### ADMINISTRATION ET RESPONSIBILITIES

### Roles

ANR project (submitted). with Magalie Ochs (LIS-CNRS), Chloé Clavel (Télécom Paris) and Béatrice Biancardi (Télécom Paris).

Supervision of an Annotator. Aurore Lessieux (1 month).

Board Member of ATALA (French NLP National Association). 2020 - now

Supervision of an intern (master 2 reseach in Computer Science). René Azcurra.

Supervised with Bernard Espinasse, Sébastien Fournier and Adrian Chifu (defended on june 18th 2018 in Marseille)

Vice-president and secretary of PhD and PhD Students from the LIS laboratory (A2DL) . (2016–2018)

## Conference Organization

**SyntaxFest** (4 events : Quasy, Depling, TLT et UDWorkshop), Paris 26–30 August 2019 : Member of the organization committee.

Workshop Affect Compagnon Artificiel Interaction (WACAI 2018) , Porquerolles 13–15 June 2018 : Membre du comité d'organisation et responsable du site web.

14th PhD Student Days from LSIS laboratory (JDL6) , Carry-le-Rouet 22-23 May 2017 : Member of the organization committee.

Conference on Information Retrieval and Applications (CORIA 2017), Marseille 29–31 March 2017: Member of the organization committee and webmaster.

## Hackathons and Reading Group Organization

Working Group ACAI Saint-Etienne

22 june 2022: member of the program committee.

Reading Group ACAI Virtual 2022, every month: organizer

HackaTAL 2018 Rennes 14-15 may 2018: member of the organization committee.

**HackaTAL 2017** Orléans 24–26 june 2017: member of the organization committee and in charge of the automatic summarization task (ideas proposition, setup, data collection through web scrapping et automatic teams evaluation)

### Reviews

Conférence sur le Traitement Automatique des Langues Naturelles (TALN 2022) 27th june - 1st july, Avignon.

Applied Intelligence march 2022 issue

Empirical Methods in Natural Language Processing (EMNLP 2021) 7-11 november, Punta Cana and on-

Numero 62-2 of French NLP journal "Traitement Automatique des Langues" (revue TAL) On now NLP applications. 2021

IEEE Transactions on Affective Computing (TAFFC) 2021 Issue.

European Chapter of the Association for Computational Linguistics (EACL 2021) 19-23 april 2021, online.

Workshop Affect Compagnon Artificiel Interaction (WACAI 2021) 13-15 october 2021, Île d'Oléron.

Conférence sur le Traitement Automatique des Langues Naturelles (TALN 2021) 28th june - 2nd july, Lille.

COnférence en Recherche d'Information et Applications (CORIA 2021) Grenoble and/or online, 14-16 april 2021.

Empirical Methods in Natural Language Processing (EMNLP 2020) 16-20 november, online.

Rencontres Jeunes Chercheur(euses) (RJC) CORIA/TALN 2018.

Third International KEYSTONE Conference (IKC2017) Gdańsk Poland, 11-12 September 2017.

### RECENT SUPERVISORS

Chloé Clavel: Current postdoc. Professor. chloe.clavel@telecom-paris.fr

Matthieu Labeau: Current postdoc. Assistant Professor. matthieu.labeau@telecom-paris.fr

**Benoît Sagot**: Scientific supervisor for the post-doctoral position in the PROFITEROLE project. Researcher. Contact: benoît.sagot@inria.fr

Patrice Bellot: Thesis supervisor. Professor. Contact: patrice.bellot@lis-lab.fr

Magalie Ochs: Thesis co-supervisor. Assistant Professor (HDR). Contact: magalie.ochs@lis-lab.fr

### **FORMATION**

PhD in Computer Science, Natural Language Processing, Information Retrieval.

Aix-Marseille University. Laboratory of Computer Science and Systems (LIS-CNRS UMR 7020) and Caléa Solutions. 2016-2019

Master of Engineering in Computational Linguistics, Linguistics and Computer Science, NAtural Language Processing. Université Paris III Sorbonne-Nouvelle, Obtained in Septembre 2014

Master 1 of Engineering of Language for Information Management (Ingénierie de la Langua pour la Gestion Intelligente de l'Information), Linguistics and Computer Science, Natural Language Processing. Université Paris 4 Sorbonne, 2011

Bachelor in Language and Computer Science (Computational Linguistics), Natural Language Processing, *Diploma C2i*, Databases, etc. Université Paris 4 Sorbonne, 2010

**High-School Diploma on Litterature,** Specialized in cinema and audiovisual. High-School Paul Valéry, 2007 Specialization: Text Mining, Natural Language Processing

# SKILLS

### Linguistics

Linguistics and Textual Linguistics, Stylistics, Rethorics, Coprus Linguistics, Computational Linguistics, Socio-linguistics, Formal Grammar, Discourse and Lexicometrics, Language Diversity and Typology, Semantics

### Computer Science

Languages & Softwares : Python, Java, JavaEE, JavaScript, JavaFX, LateX, UniteX, Shell, DTD, XQuery, XPath, SQL, XSL, XML, HTML

 $Operating \ Systems: Unix, \ Windows.$ 

Softwares/Frameworks: PyTorch, Keras, SciKitLearn, VueJS, SpringBoot, Tensorflow, AngularJS, Wapiti, Weka, Mate, MaltParser, UIMA, Unitex, Protege, Praat

IDEs: Visual Studio Code (Python, JS, VueJs), Eclipse (Java, JavaEE), Android Studio / IntelliJ

#### **SOFTWARES**

Git Repository: https://github.com/gguibon

**EZCAT** (2022) Customizable interface for an easy annotation of conversation. (Evolution and generalization of the POC Annotator app): https://github.com/gguibon/ezcat

**ProtoSeq** (2021) Source Code for *Prototypical Networks* (few-shot learning) adapted to sequence labeling for emotion recognition in conversation (EMNLP 2021): https://github.com/gguibon/ProtoSeq

MetaLearningDemo and source code (2021) Demo dedicated to the present the work published at the MetaNLP workshop in ACL 2021, to be hosted soon in HiParis (https://www.hi-paris.fr/) and presented as a poster session. https://github.com/gguibon/metalearning-emotion-datasource.

POC Annotator (2020) Interface for Messages' Emotion Annotation in Conversation: https://gguibon.github.io/poc/

LEMA: Lexicon and Enrichments Modification Application: https://lema.inria.fr:8888/

Arborator-Grew (2020) Online visualization, modification and creation of treebanks (with Kim Gerdes, Bruno Guillaume, Marine Courtin, Kirian Guiller, Lila Kim and Sylvain Kahane.): https://arborator.github.io/

EmoReco: EMOtional EMOji RECOmmendation system: http://lsis-mood-emoji.lsis.org:8080/

FaceEmojis: Emoji Embeddings and Clusters of Face Emojis: https://github.com/gguibon/FaceEmojis

AirBnB Scrapper used to create the corpus for participants of the NLP hackathon HackaTAL 2017: https://github.com/gguibon/airbnb-scrapper

Human Resource Management Tool used at the LSIS laboratory for more than one year: https://github.com/gguibon/LSIS-AppGestion

SOFA: Online Demo for Old French dependency parsing: https://github.com/gguibon/sofa

Interactive Tool for visualizing, browsing and comparing treebanks: https://github.com/gguibon/LAKME-SRCMF API for dependency parsing and PoS tagging for Old French: https://github.com/gguibon/SRCMF-nlp-api

Involvements: Update and optimization (computation time) of the dependency parser Echo: https://github.com/gguibon/echo

### **LANGUAGES**

French: Native Speaker English: Spoken, read, and written fluently;

Spanish: Average