

---

# MARIO GIULIANELLI

[m.giulianelli@uva.nl](mailto:m.giulianelli@uva.nl)

Science Park 107  
Office F2.11  
Amsterdam, Netherlands



[@glnmario](https://twitter.com/glnmario)



[glnmario](https://github.com/glnmario)



[glnmario.github.io](https://glnmario.github.io)

## Profile

---

PhD candidate at the [Institute for Logic, Language and Computation](#) of the [University of Amsterdam](#), in the [Dialogue Modelling Group](#) led by [Raquel Fernández](#). I analyse and model **language production and comprehension** with computational methods. My main research goal is proposing models of lexical choice and interpretation (**NLG** and **NLU**) that can be applied to tasks such as dialogue modelling, language modelling, and conversational information retrieval. I am also interested in psycholinguistic and sociolinguistic studies of **variation and change** as they provide insights into how to build more resilient and human-compatible language technologies.

## Education

---

### **MSc Artificial Intelligence, University of Amsterdam, Netherland — 2019**

Honours degree, cum laude. Final grade: 8.88 - ECTS A - First Class

**MSc Thesis: Lexical Semantic Change Analysis with Contextualised Word Representations.** In affiliation with the Institute for Advanced Study.

Grade: 9.5 (top 5% of all Master's theses grades awarded at the University of Amsterdam). ADS Thesis Award 2020.

### **BA Computational Linguistics, University of Tübingen, Germany — 2017**

Final grade: 1.2 - ECTS A - First Class

**BA Thesis. Semi-supervised emotion lexicon expansion with label propagation and specialized word embeddings.** Grade 1.0.

### **Italian Generate Certificate of Education (100/100), Rome, Italy — 2014**

### **French Generate Certificate of Education (18/20), Rome, Italy — 2014**

## Awards and scholarships

---

### **ADS Master Thesis Award — 2020**

The Amsterdam Data Science Thesis Awards promotes excellence in Data Science and AI from students in Amsterdam-based knowledge institutes.

### **IAS Excellence Student — 2019**

The Institute for Advanced Study of the University of Amsterdam offered nine outstanding students the chance to work on their final thesis alongside renowned researchers and talented early-career scholars.

---

---

### **Best Paper Award at BlackBoxNLP — 2018**

Best Paper Award awarded at the Workshop on *Analyzing and Interpreting Neural Networks for NLP* (BlackBoxNLP), held in Brussels at EMNLP 2018, one of the main international NLP venues.

### **Amsterdam Science Talent Scholarship — 2017-2019**

The Amsterdam Science Talent Scholarship selects students on the basis of their academic excellence and promise in the proposed field.

### **Deutschlandstipendium — 2016-2017**

The *Deutschlandstipendium* supports highly talented students in German universities, without consideration of income and nationality.

### **Certificat d'Inscription au Tableau d'Honneur — 2014**

Acknowledgement for advanced knowledge of French by the *Association des Membres de l'Ordre des Palmes Académiques*.

## **Work experience**

---

### **PhD Candidate, University of Amsterdam — 2019-2023**

I am a third-year PhD candidate at the Institute for Logic, Language, and Computation, where I work on computational semantics and pragmatics. I am part of the DREAM (Distributed dynamic REpresentations for diALogue Management) ERC project and member of the Dialogue Modelling Group led by Raquel Fernández.

### **Student supervisor, University of Amsterdam, 2021-present**

I supervise three student projects, respectively on language model interpretability, voice conversion, and semantic change modelling. The first has resulted in a conference paper currently under submission; the latter two are ongoing Master's thesis projects. I help the students develop project proposals and monitor their progress in weekly meetings.

### **Member of the PhD Council, Faculty of Science — 2020-present**

I represent the Institute for Logic, Language, and Computation in the PhD Council of the Faculty of Science of the University of Amsterdam. As a council member, I make sure the university management is in touch with the issues and requests of PhD students and I organise initiatives to provide my fellow students with support and opportunities. The themes I am responsible for are *diversity* and *interdisciplinarity*.

### **Workshop Organiser, BlackboxNLP, at EMNLP 2021**

I worked as an organiser of the 4th edition of *BlackboxNLP*, a well-established workshop on interpretability and explainability of machine learning systems for NLP, which took place in a hybrid format at EMNLP 2021. I contributed by acting as a meta-reviewer, designing the hybrid programme, and leading the online workshop sessions.

---

---

### **Project coordinator, University of Amsterdam, 2021**

I coordinated a team of eleven Bachelor, Master, and PhD students leading to three accepted task submissions ([Fantasy Reasoning](#), [Metaphor Understanding](#), and [Implicit Relations](#)) to the Beyond The Imitation Game Benchmark ([Big-bench](#)). My job was to help the students develop their ideas into actionable research projects and to manage their successful execution.

### **Lab Coordinator, MSc AI, University of Amsterdam — 2020-2021**

I coordinated teaching assistants and I was responsible for lab assignments during two editions of the MSc AI course *Natural Language Processing 1*.

### **Teaching Assistant, MSc AI and Logic, University of Amsterdam — 2020**

I held seminar sessions and guided final projects for *Computational Dialogue Modelling*, an advanced course offered to MSc AI and MSc Logic students. I participated in this role for two consecutive editions of the course.

### **Teaching Assistant, MSc AI, University of Amsterdam — 2018-2019**

I held lab sessions and corrected coding and theory assignments for the MSc AI course *Natural Language Processing 1*, obtaining an average student feedback of 8.0 in 2018 and 9.0 in 2019.

### **Intern, IBM Research and Development, Germany — 2016-2017**

I developed the full sentiment analysis and information extraction Italian pipeline for the IBM Watson Analytics for Social Media system.

### **Research Assistant, University of Tübingen — 2015-2016**

I worked in the Theoretical Computational Linguistics Group with Prof Dr Walt Detmar Meurers, developing an app for second language acquisition.

### **Teaching Assistant, BA CompLing, University of Tübingen — 2015-2016**

I held lab sessions and corrected assignments for two courses of the BA Computational Linguistics: *Data Structures and Algorithms I* and *II* (in Java).

## **Publications**

---

Mario Giulianelli, Arabella Sinclair, Raquel Fernández. 2021. **Is Information Density Uniform in Task-Oriented Dialogues?** In *Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing (EMNLP 2021)*.

Mario Giulianelli and Raquel Fernández. 2021. **Analysing Human Strategies of Information Transmission as a Function of Discourse Context.** In *Proceedings of the 25th Conference on Computational Natural Language Learning (CoNLL 2021)*.

Mario Giulianelli, Andrey Kutuzov, Lidia Pivovarova. 2021. **Grammatical Profiling for Semantic Change Detection.** In *Proceedings of the 25th Conference on Computational Natural Language Learning (CoNLL 2021)*.

**The Beyond the Imitation Game Benchmark.** *Forthcoming*.

---

---

Mario Giulianelli, Marco Del Tredici, and Raquel Fernández. (2020). **Analysing Lexical Semantic Change with Contextualised Word Representations**. In *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics*.

Ece Takmaz, Mario Giulianelli, Sandro Pezzelle, Arabella Sinclair and Raquel Fernández. (2020). **Refer, Reuse, Reduce: Generating Subsequent References in Visual and Conversational Contexts**. In *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing*.

Andrey Kutuzov and Mario Giulianelli. (2020). **UiO-UvA at SemEval-2020 Task 1: Contextualised Embeddings for Lexical Semantic Change Detection**. In *Proceedings of the 14th International Workshop on Semantic Evaluation*.

Mario Giulianelli, Jacqueline Harding, Florian Mohnert, Dieuwke Hupkes, and Willem Zuidema. (2018). **Under the Hood: Using Diagnostic Classifiers to Investigate and Improve how Language Models Track Agreement Information**. In *Proceedings of the 1st Workshop on Analyzing and Interpreting Neural Networks for NLP (BlackBoxNLP)*. [Best paper award](#).

Mario Giulianelli and Daniel de Kok. (2018). **Semi-supervised emotion lexicon expansion with label propagation**. *Computational Linguistics in the Netherlands Journal* 8.

## Orals and posters

---

### Computational modelling of language production

Invited talk at the **Language Technology Seminar**. Language Technology Group. University of Oslo, Norway. 14 March 2021.

Poster at **Meaning in Context: Pragmatic Communication in Humans and Machines**. NeurIPS 2021 Workshop. Online. 13 December 2021.

Talk at **CoNLL 2021**. Online. 11 November 2021.

Poster at **EMNLP 2021**. Online. 9 November 2021.

Talk at **NLPitch**. Institute for Logic, Language and Computation. University of Amsterdam, Netherlands. 26 October 2020.

Poster at **ELLIS NLP**. Online. 30 July 2021.

Talk at **AILC Lectures on Computational Linguistics**. Università Tor Vergata. Rome, Italy. 17 June 2021.

### Lexical semantic change

Poster at **CoNLL 2021**. Online. 11 November 2021.

Invited talk at **Cognitive Machine Learning Lab**. Ecole Normale Supérieure. Paris, France. 29 June 2021.

Poster at **SemEval 2020**. Online. 12 December 2020.

---

---

Talk at **Symposium on Meaning Variation in Social Contexts**. Institute for Logic, Language and Computation. Amsterdam, NL. 5 November 2020.

Talk at **ACL 2020**. Online. 7 July 2020.

Poster at **GeCKo 2020** (Integrating Generic and Contextual Knowledge). Online. 18 May 2020.

Poster at **EurNLP**. London, UK. 11 October 2019.

Poster at **Interacting Minds** (Centre for Communication, Cognition and Computation). Egmond aan Zee, Netherlands. 30 August 2019.

### **Language modelling and interpretability**

Talk at **Computational Linguistic Seminar**. Institute for Logic, Language and Computation. University of Amsterdam, Netherlands. 5 October 2021.

Guest lecture for **NLP 1, MSc AI**. University of Amsterdam, Netherlands. Online. 18 November 2020.

Guest talk at **Cognitive Science & Artificial Intelligence PhD Group**. Tilburg, Netherlands. 1 May 2020.

Talk at **Cool Logic Seminar**. Amsterdam, Netherlands. 1 February 2019.

Talk at **BlackBoxNLP**. EMNLP, Brussels, Belgium. 1 November 2018.

Talk at **CLIN** (Computational Linguistics in the Netherlands). Nijmegen, Netherlands. 26 January 2018.

## **Languages**

---

**Italian:** native

**English:** full professional proficiency (IELTS Band 8)

**German:** fluent (Goethe-Zertifikat B2, *sehr gut*)

**French:** fluent (DELF B2, and French Generate Certificate of Education)

**Dutch:** basic (UvA Talen, A2)

## **IT competences**

---

### **Programming languages**

Advanced: Python

Proficient: Java

Intermediate: Matlab, Prolog, Netlogo, R, JAGS, JavaScript

### **Python libraries I use everyday**

NumPy, SciPy, scikit-learn, Pandas, HuggingFace, NLTK, Spacy, matplotlib, seaborn, plotly

### **Markup languages**

Intermediate: HTML, CSS, XML, XSLT, XPath

### **Phonetic analysis**

Praat

---

---

### **Past research projects (as a student)**

---

**Speaker Adaptation.** Measuring alignment across topics and linguistic markers. University of Amsterdam. Supervisor: Dr Raquel Fernández.

**Digital Humanities.** Extraction of event graphs from Kafka's short stories. Automatic annotation of emotional events and temporal relations. University of Tübingen. Supervisor: Dr Magdalena Wolska.

**Psycholinguistics.** Response time of German native speakers reacting to different types of foreign mispronunciations. University of Tübingen. Supervisor: Dr Fabian Tomaschek.

**Computational Intelligence.** Self driving controllers using neural networks, reservoir computing, and evolutionary algorithms. University of Amsterdam.

**Language Modelling.** Evaluating the syntactic competence of Recurrent Additive Networks language models. University of Amsterdam.

---