

# Emanuele La Malfa

personal page

## Work Experience

### Post Doctoral Researcher

*Benchmarking Large Language Models.*

Jul. 2023 – Current  
*The Alan Turing Institute & University of Oxford, UK*

- Principal Investigators: Prof. [Michael Wooldridge](#), [Nigel Shadbolt](#), and [Anthony Cohn](#).

### Research Assistant

*Enabling rapid adoption of artificial intelligence through an anonymized data protocol and explainable models.*

Oct. 2019 – Mar. 2021  
*University of Oxford, UK*

- Principal Investigator: Prof. [Marta Kwiatkowska](#).
- Collaboration with [GenieAI](#) and funded through the [InnovateUK](#) scheme.
- The collaboration led to a paper published at [EMNLP'20](#).

### Consultant

*IBM, Global Business Unit*

Mar. 2018 – Aug. 2019  
*IBM, Milan, Italy*

- Design, development, and deploy of a search engine for a public financial institution.
- Design, development, and deploy of a cloud document management system for a public financial institution.

## Education

### University of Oxford

*PhD in Computer Science, supervised by Prof. [Marta Kwiatkowska](#).*

Oct. 2019 – Nov. 2023  
*Oxford, UK*

### Polytechnic University of Milan

*Master's Degree in Computer Science and Engineering.*

Feb. 2015 – Sept. 2017  
*Milan, Italy*

### Polytechnic University of Milan

*Bachelor's Degree in Computer Engineering.*

Sept. 2011 – Sept. 2014  
*Milan, Italy*

## Selected Publications

### Graph-enhanced Large Language Models in Asynchronous Plan Reasoning

ICML 2024 (long paper, main track)

Fangru Lin, **Emanuele La Malfa**, Valentin Hofmann, Elle Michelle Yang, Anthony Cohn and Janet Pierrehumbert

### Deep Neural Networks via Complex Network Theory: a Perspective

IJCAI 2024 (long paper, main track)

**Emanuele La Malfa**, Gabriele La Malfa, Giuseppe Nicosia, Vito Latora

### Code Simulation Challenges for Large Language Models

Under-review (long paper)

**Emanuele La Malfa**, Christoph Weinhuber, Orazio Torre, Fangru Lin, Anthony Cohn, Nigel Shadbolt and Michael Wooldridge

### Language-Models-as-a-Service: Overview of a New Paradigm and its Challenges

Journal of Artificial Intelligence Research (JAIR) - media coverage [here](#) and [here](#)

**Emanuele La Malfa**, Aleks Petrov, Frieder Simon, Christoph Weinhuber, Raza Nazar, Anthony Cohn, Nigel Shadbolt and Michael Wooldridge

### Language Models Tokenizers Introduce Unfairness Between Languages

NeurIPS 2023 (long paper, main track) - [website](#)

Aleksandar Petrov, **Emanuele La Malfa**, Philip Torr, Adel Bibi

### Emergent Linguistic Structures in Neural Networks are Fragile

Working paper (long paper)

**Emanuele La Malfa**, Matthew Wicker, Marta Kwiatkowska

### The King is Naked: on the Notion of Robustness for Natural Language Processing

AAAI 2022 (long paper, main track) – **oral presentation** –

**Emanuele La Malfa**, Marta Kwiatkowska

### On Guaranteed Optimal Robust Explanations for NLP Models

IJCAI 2021 (long paper, main track)

**Emanuele La Malfa**, Rhiannon Michelmores, Agnieszka Zbrzeny, Nicola Paoletti, Marta Kwiatkowska

### Assessing Robustness of Text Classification through Maximal Safe Radius Computation

EMNLP 2020 (long paper - findings)

**Emanuele La Malfa**, Min Wu, Luca Laurenti, Benjie Wang, Anthony Hartshorn, Marta Kwiatkowska

## Teaching Experience

<b>Deep Learning in Healthcare</b> <i>Practical sessions</i>	2024 (HT) University of Oxford, UK
<b>Machine Learning</b> <i>Classes</i>	2023 (MT) University of Oxford, UK
<b>Probabilistic Model Checking</b> <i>Practical sessions</i>	2023 (MT) University of Oxford, UK
<b>Ethical Computing in Practice</b> <i>Practical sessions</i>	2023 (HT) University of Oxford, UK
<b>Deep Learning in Healthcare</b> <i>Practical sessions</i>	2023 (HT) University of Oxford, UK
<b>Probabilistic Model Checking</b> <i>Practical sessions</i>	2022 (MT) University of Oxford, UK
<b>Machine Learning</b> <i>Classes</i>	2021 (MT) University of Oxford, UK
<b>Probabilistic Model Checking</b> <i>Practical sessions</i>	2021 (MT) University of Oxford, UK
<b>Fundamentals of Computer Science</b> <i>Practical sessions</i>	2016 (Oct.-Dec.) Polytechnic University of Milan, Italy
Conferences and Workshops Organization	
<b>Benchmarking Large Language Models</b> <i>Workshop Organizer</i>	28/11/2023 The Alan Turing Institute, London, UK
<b>LOD2020, LOD2021, LOD2022, LOD2023</b> <i>Conference Chair</i>	Lake District/Siena
Invited Lectures, Talks, and Presentations	
<b>Code Simulation Challenges for Large Language Models</b> <i>Group Talk</i>	02/02/24 Bocconi, Italy
<b>On Robustness for Natural Language Processing</b> <i>Group Talk</i>	19/04/2023 ICREA, Barcelona
<b>On the Notion of Robustness for Natural Language Processing</b> <i>Departmental Talk</i>	17/01/2023 King's College University of London, UK
<b>Robustness for Natural Language Processing</b> <i>Lecture – Deep Fridays</i>	22/04/2022 University of Bologna, Italy
<b>Explainable AI</b> <i>Lecture – Advanced Artificial Intelligence Course</i>	04/03/2022 Royal Holloway University of London, UK
Academic Revieweign and Volunteering	
<b>The Alan Turing Institute - Reviewer</b> <i>Reviewers for the Turing Fellow Program - Panel “Fundamental Research in Data Science and AI”</i>	October - December 2023
<b>Ukrainian Global University - Interviewer</b> <i>I interviewed Ukrainian students who want to study in a partner university abroad.</i>	April-June 2023
<b>The Kharkiv and Przemyśl Project</b> <i>I spent a week in Przemyśl (Poland) as a volunteer to help refugees who arrived (returned) from (to) Ukraine.</i>	August 2022
<b>Ukrainian Global University - Interviewer</b> <i>I interviewed a dozen of prospective undergraduate Ukrainian students who want to study in a partner university abroad.</i>	June-May 2022
<b>Eutanasia Legale - Volunteer</b> <i>I have collected signatures for a referendum to decriminalize euthanasia. The overall campaign gathered 1.2 million valid signatures.</i>	July 2021
Tutoring and Mentoring	
<b>Williams-Exeter Exchange Programme</b> <i>Tutoring Saad Waheed and Alisa Kanganis (Williams-Exeter Programme exchange students in machine learning).</i>	2023-2024
<b>University of Oxford</b> <i>Tutoring Edward Kusel and Aleksandar Radoslavov for their part-B projects (undergraduate in Computer Science).</i>	2022
<b>Lead the Future - Mentor</b> <i>Lead the Future helps Italian STEM talents find their path to brilliant careers. I am currently mentoring 5 students.</i>	2022-current

**Angelo Huang**

*Incoming Master's student at ETH (2025) and visiting student at Oxford (June 2024).*

Lead The Future

**Annalaura Pegoraro**

*Bachelor's degree student at Padova and exchange student at Berkeley (Summer 2024).*

Lead The Future

**Christoph Weinhuber**

*Incoming PhD student at Oxford (2024-2025).*

**Samuele Marro**

*Incoming PhD student at Oxford (2024-2025) and visiting student at Oxford (April 2024)..*