

# Emanuele La Malfa

[cs.ox.ac.uk/people/emanuele.lamalfa/](https://cs.ox.ac.uk/people/emanuele.lamalfa/)

## Education

<b>University of Oxford</b> <i>PhD/DPhil Student in Computer Science, advised by prof. Marta Z. Kwiatkowska</i>	Oct. 2019 – Present Oxford, UK
<b>Polytechnic University of Milan</b> <i>Master's Degree in Computer Science and Engineering</i>	Feb. 2015 – Sept. 2017 Milan, Italy
<b>Polytechnic University of Milan</b> <i>Bachelor's Degree in Computer Engineering</i>	Sept. 2011 – Sept. 2014 Milan, Italy

## Work Experience

<b>Research Assistant</b> <i>Enabling rapid adoption of artificial intelligence through an anonymized data protocol and explainable models.</i> <ul style="list-style-type: none"><li>• Collaboration with GenieAI.</li><li>• Funded through the InnovateUK scheme.</li><li>• The collaboration led to a paper published at EMNLP'20.</li></ul>	Oct. 2019 – Mar. 2021 University of Oxford, UK
<b>Consultant</b> <i>Consultant – IBM architect path –</i> <ul style="list-style-type: none"><li>• Design, development and deploy of a search engine for a public financial institution.</li><li>• Design, development and deploy of a cloud document management system for a public financial institution.</li></ul>	Mar. 2018 – Aug. 2019 IBM, Milan, Italy

## Publications

<b>Emergent Linguistic Representations in Neural Networks are Fragile</b> Under submission (long paper) Emanuele La Malfa*, Matthew Wicker, Marta Kwiatkowska
<b>Deep Neural Networks as Complex Networks</b> Under review (long paper) Emanuele La Malfa*, Gabriele La Malfa*, Claudio Caprioli, Giuseppe Nicosia, Vito Latora
<b>The King is Naked: on the Notion of Robustness for Natural Language Processing</b> AAAI'22 (long paper, main track) ( <b>oral presentation</b> ) Emanuele La Malfa*, Marta Kwiatkowska
<b>Characterizing Learning Dynamics of Deep Neural Networks via Complex Networks</b> IEEE-ICTAI'21 (long paper, main track) Emanuele La Malfa*, Gabriele La Malfa*, Giuseppe Nicosia, Vito Latora
<b>On Guaranteed Optimal Robust Explanations for NLP Models</b> IJCAI'21 (long paper, main track) Emanuele La Malfa*, Rhiannon Michelmor, Agnieszka Zbrzeny, Nicola Paoletti, Marta Kwiatkowska
<b>Assessing Robustness of Text Classification through Maximal Safe Radius Computation</b> EMNLP'20 (long paper) Emanuele La Malfa*, Min Wu, Luca Laurenti, Benjie Wang, Anthony Hartshorn, Marta Kwiatkowska

## Working Papers

<b>The Sense of BERT for Paraphrases: Meaning as a Function of Distributions in Large Language Models</b> (long paper) Emanuele La Malfa*, Marta Kwiatkowska
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## Invited Lectures

<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

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## Teaching Experience

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**Probabilistic Model Checking***Practicals*2022 (MT)  
*University of Oxford, UK***Machine Learning***Classes*2021 (MT)  
*University of Oxford, UK***Probabilistic Model Checking***Practicals*2021 (MT)  
*University of Oxford, UK***Fundamentals of Computer Science***Practicals*2016 (Oct.-Dec.)  
*Polytechnic University of Milan, Italy*

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## Miscellaneous

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**Programming Languages:** Python (fluent), worked with many languages/tools as part of my profession (C, js, ...)**Languages:** Italian (native), English (fluent), Spanish (intermediate)**Conference Chair:** LOD2020, LOD2021, LOD2022**Interests:** Books (any kind, any topic)

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## Activities

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**Lead the Future - Mentor**

2022

*Lead the Future is a no-profit organization that helps Italian talents in STEM disciplines to find their path to brilliant careers.***Ukrainian Global University - Interviewer**

June-May 2022

*I interviewed a dozen of perspective undergraduate Ukrainian students who want to study in a partner university abroad.***Eutanasia Legale - Volunteer**

July 2021

*I have collected signatures for a referendum to decriminalize euthanasia. The overall campaign gathered 1.2 million valid signatures.*

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## Awards and Scholarships

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**Trinity College Graduate Scholarship**2020-21, 2021-2022  
*Trinity College, University of Oxford, UK*