

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

[A Notion of Complexity for Theory of Mind via Discrete World Models](#)

Under review (long paper)

X. Angelo Huang, **Emanuele La Malfa**, Samuele Marro, Andrea Asperti, Anthony Cohn and Michael Wooldridge

[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 Michelmore, 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

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

I supervised Angelo as a visiting student at Oxford (June-August 2024) - Angelo is an incoming Master's student at ETH (2025).

Lead The Future

Annalaura Pegoraro

I am mentoring Annalaurua via LTF - She is a bachelor's student at Padova and exchange student at Berkeley (Summer 2024).

Lead The Future

Christoph Weinhuber

Incoming PhD student at Oxford (2024-2025).

Samuele Marro

I supervised Samuele as a visiting student at Oxford (April-June 2024) - Samuele is an incoming PhD student at Oxford (2024-2025).