

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

[One Language, Many Gaps: Evaluating Dialect Fairness and Robustness of Large Language Models in Reasoning Tasks](#)

Under review

Fangru Li, Shaoguang Mao, **Emanuele La Malfa**, Valentin Hofmann, Adrian de Wynter, Jing Yao, Si-Qing Chen, Michael Wooldridge, Furu Wei

[A Scalable Communication Protocol for Networks of Large Language Models](#)

Under review

Samuele Marro, **Emanuele La Malfa**, Jesse Wright, Guohao Li, Nigel Shadbolt, Michael Wooldridge, Philip Torr

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

EMNLP 2024 (Findings)

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 (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 (main track)

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

[Code Simulation Challenges for Large Language Models](#)

Under-review

Emanuele La Malfa, Christoph Weinhuber, Orazio Torre, Fangru Lin, Samuele Marro, 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 (main track) - [website](#)

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

[The King is Naked: on the Notion of Robustness for Natural Language Processing](#)

AAAI 2022 (main track) – **oral presentation** –

Emanuele La Malfa, Marta Kwiatkowska

[On Guaranteed Optimal Robust Explanations for NLP Models](#)

IJCAI 2021 (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 (Findings)

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

Teaching Experience

Deep Learning in Healthcare	2024 (HT)
<i>Practical sessions</i>	University of Oxford, UK
Machine Learning	2023 (MT)
<i>Classes</i>	University of Oxford, UK
Probabilistic Model Checking	2023 (MT)
<i>Practical sessions</i>	University of Oxford, UK
Ethical Computing in Practice	2023 (HT)
<i>Practical sessions</i>	University of Oxford, UK
Deep Learning in Healthcare	2023 (HT)
<i>Practical sessions</i>	University of Oxford, UK
Probabilistic Model Checking	2022 (MT)
<i>Practical sessions</i>	University of Oxford, UK
Machine Learning	2021 (MT)
<i>Classes</i>	University of Oxford, UK
Probabilistic Model Checking	2021 (MT)
<i>Practical sessions</i>	University of Oxford, UK
Fundamentals of Computer Science	2016 (Oct.-Dec.)
<i>Practical sessions</i>	Polytechnic University of Milan, Italy

Conferences and Workshops Organization

Benchmarking Large Language Models	28/11/2023
<i>Workshop Organizer</i>	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	02/02/24
<i>Group Talk</i>	Bocconi, Italy
On Robustness for Natural Language Processing	19/04/2023
<i>Group Talk</i>	ICREA, Barcelona
On the Notion of Robustness for Natural Language Processing	17/01/2023
<i>Departmental Talk</i>	King's College University of London, UK
Robustness for Natural Language Processing	22/04/2022
<i>Lecture – Deep Fridays</i>	University of Bologna, Italy
Explainable AI	04/03/2022
<i>Lecture – Advanced Artificial Intelligence Course</i>	Royal Holloway University of London, UK

Academic Revieweing and Volunteering

The Alan Turing Institute - Reviewer	October - December 2023
<i>Reviewers for the Turing Fellow Program - Panel “Fundamental Research in Data Science and AI”</i>	
Ukrainian Global University - Interviewer	April-June 2023
<i>I interviewed Ukrainian students who want to study in a partner university abroad.</i>	
The Kharkiv and Przemyśl Project	August 2022
<i>I spent a week in Przemyśl (Poland) as a volunteer to help refugees who arrived (returned) from (to) Ukraine.</i>	
Ukrainian Global University - Interviewer	June-May 2022
<i>I interviewed a dozen of prospective undergraduate Ukrainian students who want to study in a partner university abroad.</i>	
Eutanasia Legale - Volunteer	July 2021
<i>I have collected signatures for a referendum to decriminalize euthanasia. The overall campaign gathered 1.2 million valid signatures.</i>	

Tutoring and Mentoring

Williams-Exeter Exchange Programme	2023-2025
<i>Tutoring Saad Waheed and Alisa Kanganis and Simon Socolow (Williams-Exeter Programme exchange students in machine learning).</i>	
University of Oxford	2022
<i>Tutoring Edward Kusel and Aleksandar Radoslavov for their part-B projects (undergraduate in Computer Science).</i>	
Lead the Future - Mentor	2022-current
<i>Lead the Future helps Italian STEM talents find their path to brilliant careers. I am currently mentoring 5 students.</i>	

Mentoring and Students Supervision

Samuele Marro

I co-supervised his [Master's thesis](#). Samuele is an incoming PhD student at the Dept. of Engineering, University of Oxford (2024-).

Angelo Huang

I co-supervised his [Bachelor's thesis](#). Angelo is a Master's student in Computer Science at ETH (2025-).

Giovanni Monea

PhD student in Computer Science at Cornell University (2025-).

Lead the Future

Simone Alghisi

PhD student in Information Engineering and Computer Science at the University of Trento.

Lead the Future

Andrea Cerutti

Master's student in Computer Science and Engineering at the Polytechnic University of Milan.

Lead the Future

Riccardo Inghilleri

Master's student in Computer Science at the Polytechnic University of Milan.

Lead the Future

Orazio Torre

Bachelor's student in Computer Science at the University of Salerno.

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Annalaura Pegoraro

Bachelor's student in math at the University of Padova and an exchange student at Berkeley (Summer 2024).

Lead the Future

Mattea Brusato

Bachelor's student at Bocconi University and an exchange student at the University of Toronto.

Lead the Future

Christoph Weinhuber

Incoming PhD student at the University of Oxford, Dept. of Computer Science (2024-).

Saad Waheed

I supervised Saad for two terms for the Williams-Exeter exchange program (2024) - Saad is a bachelor's student at Williams College (US).

Alisa Kanganis

I supervised Alisa for two terms for the Williams-Exeter exchange program (2024) - Alisa is a bachelor's student at Williams College (US).

Simon Socolov

I supervised Simon for a term for the Williams-Exeter exchange program (2024) - Simon is a bachelor's student at Williams College (US).

Academic Service

Conference Reviewer: NeurIPS, ICLR, EMNLP (reviewer), AAAI, IJCAI, PNAS (sub-reviewer).