

RODRIGO MIRA

Postdoctoral researcher at Meta, PhD graduate from Imperial College London

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EDUCATION

PhD in Machine Learning

Imperial College London

Oct 2019 – July 2023

London, GB

- Focused on applying self-supervised learning and generative modeling to leverage unlabelled audio-visual speech effectively.
- Supervised by Björn Schuller and Maja Pantic (both Professors of AI at Imperial College).
- Published 5 first-author papers, 8 papers in total, and presented in 3 workshops.
- Published in *IEEE Transactions on Cybernetics*, *CVPR*, *ICLR*, *Interspeech*, and *ICASSP*.

MSc in Advanced Computing

Imperial College London

Oct 2017 – Oct 2018

London, GB

- Taught courses (9 modules): 68.2 % (Merit) | Master's thesis: 75 % (Distinction)
- Modules included: Dynamical Systems and Deep Learning, Mathematics for Machine Learning, Advanced Statistical Machine Learning and Pattern Recognition, and Reinforcement Learning.
- Thesis was focused on leveraging Reinforcement Learning to create automatic musical composers that consistently adhere to specific genres and styles, which led to a journal publication.

BSc in Computer Engineering and Information Systems

Instituto Superior Técnico

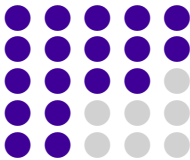
Sep 2014 – Jul 2017

Lisbon, Portugal

- Taught courses (29 modules): 18.00/20
- 3 academic excellence diplomas (one for each academic year).
- Modules included: Artificial Intelligence, Object-Oriented Programming, Databases, and Distributed Systems.

LANGUAGES

English
Portuguese
Spanish
German
French



EXPERIENCE

Postdoctoral researcher

Meta

Nov 2023 – Current

London, GB

- One of the 4 original members of the team that created the facial animation for the **Instagram Reels dubbing project**. Designed, trained, and deployed a new facial animation model from scratch and helped ship our Alpha and Beta prototypes to production.
- Published 2 papers: *Unified Speech Recognition: A Single Model for Auditory, Visual, and Audiovisual Inputs* (**NeurIPS 2024**) and *RT-LA-VocE: Real-Time Low-SNR Audio-Visual Speech Enhancement* (**Interspeech 2024**). 2 more papers are under review.

Research Intern

Sony R&D

Sep – Nov 2023

Tokyo, Japan

- Developed a novel video-to-audio synthesis model, establishing a collaboration between two teams at Sony R&D.

Research Intern

Meta

Jun – Sep 2022

London, GB

- Published 2 new research papers: *LA-VocE: Low-SNR Audio-visual Speech Enhancement using Neural Vocoders* (**ICASSP 2023**) and *Jointly Learning Visual and Auditory Speech Representations from Raw Data* (**ICLR 2023**).

Research Intern

Meta

Aug – Dec 2021

London, GB

- Developed a new collaboration on audio-visual speech enhancement between my team at Meta AI (led by Maja Pantic) and another team at Meta Reality Labs Audio Research (led by Vamsi Krishna Ithapu).

Teaching Assistant

Imperial College London

Jan – April 2021

London, GB

- Worked as a teaching assistant for the Introduction to Machine Learning (70050) course, led by Dr. Josiah Wang at Imperial College London.

Research Assistant

Imperial College London

Feb – Oct 2019

London, GB

- Developed research projects on video-to-speech synthesis and audio-visual self-supervised learning.

SELECTED PUBLICATIONS

End-to-End Video-to-Speech Synthesis using Generative Adversarial Networks

Rodrigo Mira, Konstantinos Vougioukas, Pingchuan Ma, Stavros Petridis, Björn W. Schuller, Maja Pantic

📄 IEEE Trans. Cybern. 📅 2022

LA-VocE: Low-SNR Audio-visual Speech Enhancement using Neural Vocoder

Rodrigo Mira, Buye Xu, Jacob Donley, Anurag Kumar, Stavros Petridis, Vamsi Krishna Ithapu, Maja Pantic

📄 ICASSP 📅 2023

SVTS: Scalable Video-to-Speech Synthesis

Rodrigo Mira, Alexandros Haliassos, Stavros Petridis, Björn W. Schuller, Maja Pantic

📄 Interspeech 📅 2022

LiRA: Learning Visual Speech Representations from Audio through Self-Supervision

Pingchuan Ma and Rodrigo Mira (equal contribution), Stavros Petridis, Björn W. Schuller, Maja Pantic

📄 Interspeech 📅 2021

Leveraging Real Talking Faces via Self-Supervision for Robust Forgery Detection

Alexandros Haliassos, Rodrigo Mira, Stavros Petridis, Maja Pantic

📄 CVPR 📅 2022

Jointly Learning Visual and Auditory Speech Representations from Raw Data

Alexandros Haliassos, Pingchuan Ma, Rodrigo Mira, Stavros Petridis, Maja Pantic

📄 ICLR 📅 2023

Unified Speech Recognition: A Single Model for Auditory, Visual, and Audiovisual Inputs

Alexandros Haliassos, Rodrigo Mira, Honglie Chen, Zoe Landgraf, Stavros Petridis, Maja Pantic

📄 NeurIPS 📅 2024

Laughing Matters: Introducing Laughing-Face Generation using Diffusion Models

Antoni Bigata Casademunt, Rodrigo Mira, Nikita Drobyshhev, Konstantinos Vougioukas, Stavros Petridis, Maja Pantic

📄 BMVC 📅 2023

Automated composition of Galician Xota – tuning RNN-based composers for specific musical styles using deep Q-learning

Rodrigo Mira, Eduardo Coutinho, Emilia Parada-Cabaleiro, Björn W. Schuller

📄 PeerJ Comp. Sci. 📅 2023

WORKSHOPS AND TALKS

Workshop organizer at ECCV 2024

AVGenL Workshop, ECCV

📅 Sep 2024

📍 Milan, Italy

- One of the organizers for the first edition of the Audio-Visual Generation and Learning (AVGenL) workshop at ECCV 2024.

Workshop presentation at CVPR 2023

Sight and Sound Workshop, CVPR

📅 Jun 2023

📍 Vancouver, Canada

- Presented 3 of our group's new research papers (LA-VocE, RAVEn, and Auto-AVSR).

Conference Poster Presentation

ICASSP

📅 Jun 2023

📍 Rhodes, Greece

- Gave a 2-hour poster presentation about our new audio-visual speech enhancement model (LA-VocE), demonstrating our state-of-the-art results.

Conference Oral Presentation

Interspeech

📅 Sep 2022

📍 Incheon, South Korea

- Gave a 20-minute oral presentation for an audience of 30+ attendees about our new scalable video-to-speech model (SVTS), demonstrating our state-of-the-art results.

Workshop presentation at CVPR 2022

Sight and Sound Workshop, CVPR

📅 Jun 2022

📍 New Orleans LA, USA

- Presented our new scalable video-to-speech model (later published in Interspeech 2022).

Research Presentation with the President of Portugal

Imperial College London

📅 Jun 2022

📍 London, GB

- Presented a summary of my PhD's research contributions to the president of Portugal, Marcelo Rebelo de Sousa, as well as 50+ other attendees in a special event held at Imperial College London.

Show & Tell Demo

ICASSP

📅 May 2020

📍 Barcelona, Spain

- Showcased an interactive demo of our video-to-speech synthesis model.