RODRIGO MIRA

Researcher at Meta AI, 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 (Professor of AI at Imperial College) and Maja Pantic (Professor 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 (**Impact factor: 19.12**), CVPR (**#1 conference in engineering and computer science**), ICLR (**#1 conference in artificial intelligence**), 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.

BSc in Computer Engineering and Information Systems

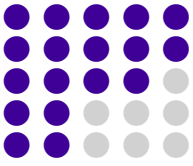
Instituto Superior Técnico

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

Researcher

Meta AI

Nov 2023 – Current | London, GB

- Developing new audio-visual speech models.

Research Intern

Sony R&D

Sep – Nov 2023 | Tokyo, Japan

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

Research Intern

Meta AI

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).

Part-time Researcher

Meta AI

Mar – Jun 2022 | London, GB

- Continued work in audio-visual speech enhancement and started a new self-supervised learning project via a new collaboration.

Research Intern

Meta AI

Aug – Dec 2021 | London, GB

- Developed a new collaboration 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 Vocoders

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

Laughing Matters: Introducing Laughing-Face Generation using Diffusion Models

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

BMVC 2023

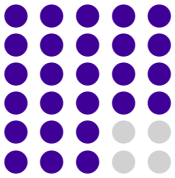
Automated composition of Galician Xota – tuning RNN-based composers for specific musical styles using deep Q-learning

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

PeerJ Comp. Sci. 2023

SOFTWARE SKILLS

Python
Pytorch
Pytorch Lightning
Weights and Biases
Tensorflow
Amazon Web Services



TALKS AND PRESENTATIONS

Workshop presentationz 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) for an audience of 20+ attendees.

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) for an audience of 20+ attendees.

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.