



CONTACTS

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EDUCATION

MSc Sound and Music Computing

Queen Mary University of London

Thesis: "Influence of Placement on Loudspeakers' Electrical Impedance" – Distinction

MEng Electronics Engineering

Sapienza University of Rome

Thesis: "Distance Perception in Virtual Audio Display" – Distinction

BEng Computer Engineering

Sapienza University of Rome

SKILLS

> Coding

- Python
- PyTorch
- PyTorch Lightning
- Tensorflow
- JavaScript
- C++
- MATLAB

> Design

- Cadstar PCB Design
- Spice
- Eagle CAD
- Audio Precision Analysers

> Audio

- Recording
- ProTools / Cubase / Logic Pro
- Guitar

LANGUAGES

Italian _ Native
English _ Fluent
French _ Basic

MARCO COMUNITÀ

AUDIO RESEARCHER

SELECTED PUBLICATIONS

Comunità, M., Steinmetz, C. J., Phan, H., Reiss, J. D. "Modelling Black-box Audio Effects with Time-varying Feature Modulation". arXiv preprint arXiv:2211.00497. 2022.

Colonel, J. T. and Comunità, M. and Reiss, J. D. "Reverse Engineering Memoryless Distortion Effects with Differentiable Waveshapers". AES Convention 153. 2022.

Comunità, M. and Gerino, A. and Picinali, L. "PlugSonic: a Web-and Mobile-based Platform for Dynamic and Navigable Binaural Audio". EURASIP Journal on Audio, Speech, and Music Processing. 2022.

Comunità, M., Phan, H., Reiss, J. D. "Neural Synthesis of Footsteps Sound Effects with Generative Adversarial Networks". AES Convention 152. 2022.

Comunità, M., Stowell, D., Reiss, Joshua D. "Guitar Effects Recognition and Parameter Estimation with Convolutional Neural Networks". Journal of the AES, 69(7/8). 2021.

Comunità, M., Gerino, A., Lim, V., & Picinali, L. "Design and Evaluation of a Web-and Mobile-Based Binaural Audio Platform for Cultural Heritage". Applied Sciences, 11(4). 2021.

KEY EXPERIENCE

PhD Researcher

2019-2023

Queen Mary University of London / Centre for Digital Music

PhD candidate in the Centre for Digital Music as a member of the UKRI Centre for Doctoral Training in AI and Music. Working on Deep Learning for Audio Effects Modelling under the supervision of Joshua Reiss

Research Assistant

2017-2021

Imperial College London / Dyson School of Design Engineering

RA in 3D Audio. Web Developer for the Pluggy EU project. Teaching Assistant

Project and Design Engineer

2014-2017

Blackstar Amplification Ltd.

Project and Design Engineer for a leading guitar amplifiers companies in the MI industry.

Design _ Vacuum tubes & solid state / Preamps / Power amps / Schematic & PCB layout / Switching & logic circuits / Mass production & custom designs / Critical listening

Project Management _ Feasibility / Competitors' analysis / Resources management / Components sourcing / Technical specifications and supporting documentation / Collaboration with suppliers and OEMs / Interaction and report to R&D manager and directors / Coordinating functions and interfacing with other departments

Testing _ Conduct and lead tests: electronic, sonic, EMC and safety, endurance, heat, rattling

Production _ Documentation / Test procedures / Quality assessment / Support prototype assembly / Travel to Far East for pre- and mass production setup with OEMs / OEMs support / Technical investigations and RFC

Research _ Electronics / Acoustics / Collaboration with the DSP team: training, analysis, modelling of analogue linear and non-linear blocks / Development of circuits and tools to reduce the time to market

Founder, Owner and Design Engineer

2009-2014

Mad Hatter Stompboxes

Owner of a business of design and manufacturing of high-quality analogue guitar effects.

Full Product Design _ Concept / Electronics / Graphics / Packaging / Website

Assembly and Testing. Supply Management. Financial Management. Customer Support