MARCO COMUNITÀ

AI | AUDIO | RESEARCHER | ENGINEER

CONTACTS

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in linkedin.com/in/marcocomunita

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: Full Professional Proficiency

SELECTED PUBLICATIONS

Comunità, M., Gramaccioni, R. F., Postolache, E., Rodolà, E., Comminiello, D., Reiss, J. D. **"SyncFusion: Multimodal Onset-synchronized Video-to-Audio Foley Synthesis"**. Submitted to ICASSP 2024.

Comunità, M., Steinmetz, C. J, Phan, H., Reiss, J. D. **"Modelling Black-box Audio Effects with Time-varying Feature Modulation"**. ICASSP 2023.

Colonel, J. T., Comunità, M., Reiss, J. D. **"Reverse Engineering Memoryless Distortion Effects with Differentiable Waveshapers"**. AES Convention 153. 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, J. D. **"Guitar Effects Recognition and Parameter Estimation with Convolutional Neural Networks"**. Journal of the AES. 69(7/8). 2021.

Comunità, M., Gerino, A., 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., 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

Research Intern

`9/12-2023`

Sony | Creative AI Lab

PhD intern in Deep Learning for Audio Signal Processing

PhD Researcher

`2019-2024`

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 and Sound Effects Synthesis under the supervision of Joshua D. 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.

Electronic Engineer | Project Engineer

`2014-2017`

Blackstar Amplification Ltd.

Project and Design Engineer for a leading guitar/bass amplifiers company 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 analog linear and non-linear blocks / Development of circuits and tools to reduce the time to market.

Founder | Owner | Design Engineer

`2009-2014`

Mad Hatter Stompboxes

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

Full Product Design: Concept / Electronics / Graphics / Packaging / Website.

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