



# FEDERICO DE LELLIS

**Address:** C/ Coronel Sanfeliu 6-8, 1r 3a, Sant Martí, 08018 Barcelona, Spain  
**Phone:** +39 331 987 0118  
**Email:** [info@federicodelellis.com](mailto:info@federicodelellis.com)  
[linkedin.com/in/federico-de-lellis](https://www.linkedin.com/in/federico-de-lellis)

## SUMMARY

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Professional with expertise in hardware and software development. Master's Student in Music & Sound Computing, interested on real-time audio generation, machine learning, sound classification and transformation, latent space manipulation and neural sound synthesis. Experienced in full-stack development specialized in cloud deployments. Founder of Morph, leading design and development of modular synthesizers for musicians.

## WORK EXPERIENCE

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### Founder & Lead Developer at Morph Sep 2020 – Present

- Lead development, design, and assembly of modular synthesizer enclosures and instruments.
- Design schematics and PCBs and control panels for synthesizers, ensuring efficient and reliable circuit designs for audio processing modules and user interface ergonomics.
- Prototype and develop embedded DSP projects in C++, Pure Data and Max/MSP, aimed at hardware products for audio processing.

### Full Stack Developer at Upwell Development Consulting Feb 2020 – Feb 2026

- Design and develop web applications on Windows Azure using modern frameworks such as React, Node, Next, and Python, ensuring a seamless user experience and high-performance backend.
- Have ensured web applications are fully optimised for mobile and desktop, enhancing usability and performance using responsive design principles.
- Optimise front-end performance by reducing load times and enhancing application speed through code splitting, lazy loading, and image optimisation techniques.
- Work closely with the UX/UI design team to translate wireframes and prototypes.

### IT Project Manager at Polygonal Nov 2019 – Oct 2025

- Spearheaded the deployment of Python-based web applications on Azure App Service, utilising Azure SDK for Python to manage resources and automate app scaling.
- Managed the selection, configuration and deployment of IT tools and cloud-based platforms Azure.

## EDUCATION

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### Master in Sound and Music Computing Sept 2025 - expected July / August 2026

Universitat Pompeu Fabra

- Interdisciplinary program focused on machine learning, supervised learning, signal processing, audio analysis, music information retrieval, and sound generation.
- Thesis "Real-Time Neural Style Transfer for Audio Loops" Generative interface for the synthesis of entirely novel loops with real-time latent space manipulation and neural network style transfer.

### Bachelor's Degree in Computer Science Mar 2022

Sapienza University of Rome

- Thesis "Music for Gardens: Ambient Music Generator" an exploration of algorithmic composition, using mathematical models and Markov chains, combined with creative coding techniques.

## ADDITIONAL INFORMATION

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- **Technical Skills:** Python, PyTorch, TensorFlow, Keras, SQL, scikit-learn, librosa, Pandas, NumPy, SciPy, DSP, C++, CMake, DAWs, JavaScript, React, Node.js, Next.js, REST APIs, CI/CD, PCB Design.
- **Languages:** Italian – Native speaker, Spanish - Heritage bilingual (native-level), English – professional working proficiency.