

# Jeremy Uzan

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Born and raised in France, Paris, I currently live in Miami, Florida, USA. I am proudly a green card holder, immediately eligible to work anywhere in the United States with (no visa needed). As an Audio Machine Learning Engineer with 7 years of expertise, I am passionate about advancing AI technology and commercialization.

## Work Experience

April 2022 - **MYTI.ai Miami, FL Senior Audio and Machine Learning Engineer.**

August 2024 MYTI provides an innovative non lethal security system using computer vision, sound and laser. I evolved from an Engineer position to a lead technology position, reporting directly to the CEO and CTO. Collaborating between our onsite development team and offsite remote team, I helped integrate the company's visions and ideas into commercial technology and features, ensuring the stability and reliability of the audio system.

- Ensure stability and reliability of the audio system, including software (Max/MSP, ArmoniaPlus, Dante Virtual Soundcard) and hardware (25 beams speaker, subwoofer, Quatrocanalli Amplifiers, drones).
- Implement additional software modules in Python and QT framework. Contributed to the integration of new audio payloads embedded on drones, utilizing ESP32 and Arduino code.
- Led investor group demonstrations, attributing to raising 8 million dollars of capital.
- Conduct QA Testing with Agile methodologies, including sprint planning.

March 2021 - **SONY : Computer Science Lab Paris Audio Machine Learning Engineer**

March 2022 SONY CSL Paris Music team aims at developing new AI music tools for artist to enhance their creativity. Developed and deployed a proof-of-concept compressed generative AI model on Raspberry Pi. Successfully deployed AI-driven real-time audio enhancement tools for next-gen hearing aids, resulting in improved acoustic perception across diverse environments.

- Implemented distillation and pruning techniques for compression of a deep learning model called DrumGAN. Generative AI for music.
- Embedded AI mixing model on tiny CPU devices (Raspberry/Smartphone).

May – October 2019 **Capgemini : Sogeti Tech Lab Paris Machine Learning Engineer Intern**

- Worked with Scrum Agile methodology in the Data/AI cluster
- Completed a research project in natural language processing (Spacy, BERT, StanfordNLP) for entity recognition and automatic summary

January – June 2018 **Studio Cercle Rouge Paris Sound Engineering Assistant**

- Produced music with two well-known French producers who specialize in film score
- Set up recordings, helped mix the sounds, contributed ideas in the project.

## Technical Skills

**Languages** Python, C++, Rust, SQL

**Libraries** PyTorch, TensorFlow, Keras, Spacy, Magenta, CUDA

**Methodology, Worktools** GitHub, Agile SCRUM, Trello, Slack

**Cloud and Platforms** : Docker, Spark, Azure, GitHub, Trello, Slack

**Frameworks and Software** Max/MSP, Ableton, ProTools, QT

## Education

- 2020-2021 **IRCAM (Research Institute for Computer Music and Acoustics) MSc ATIAM, Paris**  
Focus : Machine Learning : GANs, Variational Autoencoders, data generation methods in Latent Space. Signal Processing : Mel algorithms, Klapuri method, source separation. Acoustics : Perception, HRTF, 3D sound, hearing aid, instrument synthesis, impulse response synthesis for reverberation and room acoustics.
- 2018-2020 **École Polytechnique and Sorbonne University MSc Mathematical Modelling and Machine Learning**  
Focus : Mathematical Methods in Biology, Stochastic Calculus, Mathematical Methods for Neurosciences, Cloud Computing, ML and Neural Networks, GPU Based Parallel Programming.
- 2014-2017 **Sorbonne University and UPMC Bachelor in Applied Mathematics (Graduated with honors), Paris**  
Focus : Statistics, Probability Theory, Partial Differential Equations (Python) Statistical computing in Rstudio, C++
- 2013-2014 **Lycée Helene Boucher Preparatory Class, Paris**  
Intensive preparation courses in Maths, Computer Science, Philosophy, Geopolitics, English and Spanish.

## Publications and Achievements (click here)

- 2021 **"Compressing audio generative models for embedded device", Research Paper SONY CSL**  
Compressing techniques for neural networks allows for speeding up inference reducing energy consumption. With a compressed version of our drum generative model, we consider embedding the pluggin on tiny device like Raspberry, Jetson Nano, Smartphones .
- 2021 **"Learning controls and interactions for DDSP", Research Paper IRCAM**  
In a lot of Machine Learning problems, we try to reduce the dimensionality of the data. Variational Autoencoder (VAE) is a very popular method that is used in many recent papers
- June 2018 **Data Scientist Competitor Frenchdata**  
Competed to create the best predicted model that estimates the time lapse to sell a specific commercialized product. 74th out of 350 data scientists 15 variables (coding on Python)
- April-May 2020 **Professional Scrum Master and Scrum Developer**
- September 2019 **Capgemini Hackathon - Innovative Medical App**  
Achieved 2nd place with a Smart Medicine Mobile App

## Projects

- 2021 **Web App Audio**  
This project highlights the potential of Audio Web App in the context of Cross platform capabilities. A youtube Tutorial is attached. Simple sine synthesis using a Tone Js library and a spectrogram. The piano notes can be played from your computer keyboard.
- 2019 **Brain Machine Interface Machine Learning for EEG classification**  
Developed EEG-based Brain-Machine Interface (BMI) system using AI to decode neural signals, enabling real-time control of prosthetics, communication devices, and computer systems. Retrained machine learning models to generate precise control commands from EEG data.
- 2017-Present **Artist Project Manager : Digital Distribution, Artistic Direction, Mixing and Mastering**  
Managed digital release distribution via Distrokid and Routenote. Submitted catalog to SACEM and contributed to mixing and mastering for the artist's projects.

## Language Skills and Interests

**Languages** French, English and Spanish (Working Proficiency), Chinese and Russian (Beginner)  
**Dance** Breakdance (2007-2014), Cuban Salsa and Dance House (2016 – present)  
**Interests** Acrylic painting, Music production, Vinyl collector