



# NINON DEVIS

## Creative Deep Learning

### QUALIFICATIONS

**2020-2024** Ph.D Degree IRCAM/SCAI (Sorbonne Center for Artificial Intelligence)

**Subject:** Lightweight deep learning on real-time embedded architecture

- Real-time neural audio synthesis through deep generative models.
- Interactive musical instruments with model controls development.
- Interface design & embedding into hardware synthesizer.
- Reflective study on AI's artistic applications and interviews with artists.

**2019-2020** Master's Degree IRCAM (Inst. Research & Coordination Acoustics/Music)

Signal Processing, Acoustics and Computer Science applied to music  
Valedictorian in Machine Learning: 17/20

**2012-2015** Engineering Master's Degree ESTP (Special school for public work)

Multidisciplinary Master

**2009-2012** Preparatory Classes Lycée Condorcet

Dominant of physics and chemistry

**2008-2009** High School Diploma of Sciences Lycée Hélène Boucher

Major in mathematics

### WORK EXPERIENCE

**Native Instruments** Audio Research Engineer Berlin

Research team Music software development deep learning based

**I 2023 - Today**

**Google - Brain** Invited Student Researcher Paris | Tokyo

Magenta team Control of generative models, prior divergence.  
**I 2023** Development of a lightweight model to control real-time audio synthesis through prior generation.

**Squarp Instruments** Research Internship Valedictorian: 17.2/20 Paris

**I 2020** Deep generative models implementation for MIDI melodies generation, model reduction study for embedding into a hardware sequencer.

**Behles & Jochimsen** End-of-course Internship Berlin

**I 2015** Engineer/Architect

### TEACHING POSITION

**2019-2023** Lecturer - Master 2 level IRCAM

Pure Data & Ableton Live  
Creation of all educational materials: courses, practical work, exams.  
Musical Machine Learning  
3 months projects

**2019-2021** Tutor Sorbonne University

Cryptology & Cyber security - Master 1 level  
Java - Bachelor's degree level

**2016-2017** High school and Higher Technical Level Teacher Lycée Dorian

Physics, chemistry and applied physics teacher  
10th and 11th grade, Higher Technical Certificate levels.  
Creation of all educational materials: courses, practical work, exams.

#### Email

ninon.devis@ircam.fr

#### Website

<https://ninon-io.github.io>

#### Major Project

##### Neurack

(Nvidia Award 2022)

### SKILLS

#### Programming

Python ●●●●●○

Java ●●●○○○

#### Deep & Machine Learning

##### Algorithms

Neural Network Architectures

Pytorch Framework

#### DAWs

Ableton ●●●●●○

Ardour ●●●●○○

Bitwig ●●●●○○

FL Studio ●●●○○○

#### Audio Language

Max MSP ●●●●○○

Pure Data ●●●●○○

#### Additional Proficiencies

DSP, Hardware,

Audio synthesis & visualization,

Features extraction,

Sound design

## GRANTS

- Doctoral grant: Sorbonne Center of Artificial Intelligence (3 years)
- JSPS doctoral Fellowship for Research in Japan (1 year) at Tokyo University

## QUALITIES

Hardworker Creative  
Rigorous Passionate  
Pro-active Pedagogue  
Organized Innovative

## LANGUAGES

French Native  
English Fluent (C1)  
German Basic (A1)  
Japanese Basic (A1)

## ABOUT

Music composition

### Hardware

Modular synthesizer  
Iridium synthesizer  
Maschine  
Oktatrack Elektron  
Ableton push 2  
Upright piano Kawai  
Zoom H2N recorder

### Software

Kontakt, Massive  
Omnisphere, Ozone  
Trash 2, Pigments  
Z3ta, Neutron,  
Serum, Soundtoys...

### Interests

Litterature  
Travels (+20 countries)  
Jewelry making  
Calligraphy

## PUBLICATIONS

- 2024** UNDER REVIEW ISMIR  
Nercessian, Imort, **Devis**, Blang
- 2023** Continuous descriptor-based control for deep audio synthesis ICASSP  
**Devis**, Demerle, Nabi, Genova, Esling
- 2023** The ACIDS Research project VDT Magazin  
Bindi, Caillon, Chemla, Demerle, **Devis**, Douwes, Esling, Genova, Nabi
- 2021** Neurorack: deep audio learning in hardware synthesizer EPFL Seminar  
**Devis**, Esling
- 2021** L'avenir de la créativité musicale sera-t-il artificiel ? The Conversation  
**Devis**
- 2020** Creativity at the era of artificial intelligence JIM Keynote article  
Esling, **Devis**
- 2020** Diet deep generative audio models with structured lottery DaFX  
Esling, **Devis**, Bitton, Caillon, Chemla, Douwes
- 2020** Ultra-light deep MIR by trimming lottery tickets ISMIR  
Esling, **Devis**, Bitton, Caillon, Chemla, Douwes

## CONFERENCES & SEMINARS SPEAKER

- 2024** Can AI create Art ? Sorbonne University (France)
- 2023** Signal Processing in the AI era ICASSP (Greece)
- 2022** ACTOR Project The University of the Arts, Calgary (Canada)
- 2022** The Art Intelligence Seminar The University of the Arts, Calgary (Finland)
- 2022** Presentation of the Neurorack Superbooth (Germany) | Synthfest (France)
- 2021** Digital Humanities Seminar EPFL, Lausanne (Switzerland)
- 2021** Presentation of the Neurorack Project for Raster Noton IRCAM (France)
- 2021** AI, Music and Incarnation Collegium Musicae & SCAI (France)
- 2021** AI, Art and Creativity CNRS (France)

## CERTIFICATIONS

- 2020** Professional training in Max MSP IRCAM  
Certification obtained
- 2019** Workshops Berlin  
Composition, Mixing & Mastering
- 2019** Construction of Eurorack modules Paris  
Construction of analog modules from recycled components
- 2018** Intensive training Ableton & Max for Live Melbourne  
With John Sned
- 1998-2008** Piano and music theory Conservatoire Charles Munch, Paris

## EXTRA- PROFESSIONAL CAREER

- 2018-2019** Volunteer teacher Epitech, Paris  
Computer-assisted musical composition using Ableton and Max for live software, within an engineering school.
- 2013-2016** Head of the artistic department Keller, Zürich  
Organization of events around electronic music & workshops
- 2014** Association President Sound ETP, Paris  
Creation and management of electronic music association.