

# Esteban Andrés Gómez Mellado

[www.estebangomez.me](http://www.estebangomez.me) • [esteban.gomezpellado@aalto.fi](mailto:esteban.gomezpellado@aalto.fi)

## Education

---

**Aalto University** 2022 - present

### Doctoral Programme in Electrical Engineering

- Research: Deep learning for real-time speech processing, noise suppression, dereverberation, artificial bandwidth extension.

**Universitat Pompeu Fabra** 2020 - 2021

### Master in Sound and Music Computing

- GPA: 9.5 / 10.0
- Coursework: Audio Signal Processing for Music Applications, Natural Language Interaction, Music Information Retrieval, Music Perception and Cognition.
- Thesis: Deep Noise Suppression for Real Time Speech Enhancement in a Single Channel Wide Band Scenario.

**Berklee College of Music** 2016 - 2017

### Master of Music in Music Production, Technology and Innovation

- GPA: 10.0 / 10.0
- Coursework: Computer Generated Music, Virtual Reality, Music Production, Music Mastering, Sound Design, Video Mapping, Sound Installation and Live Performances.

**University of Chile** 2010 - 2015

### Bachelor of Arts with Concentration in Sound

#### (U.S. Equivalence: Bachelor of Science degree with a major in Sound Engineering)

- GPA - 3.74 / 4.0.
- Teaching Assistant for Differential Calculus, Integral Calculus, Multivariable Calculus and Differential Equations.
- Coursework: Calculus, Algebra, Statistics, Physics, Acoustics, Computer Science, Circuit Analysis, Electroacoustics, Sound Recording, Sound Synthesis, Research Techniques, Music Theory, Harmony, Music Literature, Ear Training.

## Skills

---

**Languages:** Spanish (native); English (fluent); Catalan (elementary); Finnish (elementary).

**Software and hardware resources:** PyTorch, TensorFlow, ONNX, MATLAB, JUCE, Git, Visual Studio Code, Xcode, Max/MSP, music21, Reaper, Pro Tools, Ableton Live, Adobe Suite, WaveLab, Sibelius, Arena, Arduino, Raspberry Pi, EAGLE, OpenGL.

**Programming, markup and domain-specific languages:** C, C++, Rust, Python, JavaScript, HTML, CSS, PHP, SQL, Bash.

## Professional Experience

---

**Mitek Systems** 2024 - present

**Machine Learning Engineer**

- VoicelD Research and Engineering.

**Voicemod Inc.** 2021 - present

**Applied Machine Learning Engineer (Audio Processing)**

- Deep learning methods for real-time speech enhancement, watermarking and deep fake detection.
- Research and implementation of 5+ on-device real-time and offline speech processing algorithms for desktop app and automatic data ingestion pipelines.
- Lead and contributed to implementation of audio watermarking system funded by the Spanish Government.

**Intorno Labs** 2017 - 2021

**Software Tools Designer and Developer**

- Programmer and designer of immersive audio plugins for artists including Open Sound Control and real-time trajectory tracing.
- Plugins used in several festivals and venues such as Sónar+D, Lapsus, MIRA, MUTEK, Arena di Verona (Italy), or Expo City (Dubai).

**Berklee College of Music, Valencia Campus** 2018 - 2021

**Academic Technology Coordinator**

- Setup, maintenance and software deployment in 2 technology laboratories and 5 recording studios including the Ann Kreis Scoring Stage.

**Núcleo Emovere Research Group, University of Chile** 2015 - 2017

**Software Developer and Touring Artist**

- Designed and programmed a real-time physiological data sonification system for research and live performances.
- 1 published paper, 20 live performances and 1 talk.

**Audiovisual Archive, Chilean National Library** 2014 - 2015

**Audiovisual Consultant and Software Designer**

- Designed the first digitization station of the archive.
- Digitized exclusive content of the poetess and Nobel Prize in Literature, Gabriela Mistral.
- Designed and programmed a software for remote audiovisual heritage management.

## Publications and Talks

---

### Publications

- Gómez Esteban, Bäckström Tom. “Low-complexity Real-time Neural Network for Blind Bandwidth Extension of Wideband Speech”. 31st European Signal Processing Conference Proceedings EURASIP, 2023.
- Gómez Esteban, Wimmer Benedikt. “Temporal Evolution of Makam and Usul Relationship in Turkish Makam”. Musicological Annual, 58(2), 107-119, 2023.
- Bäckström Tom, Räsänen Okko, Zewoudie Abraham, Zarazaga Pablo, Koivusalo Liisa, Das Sneha, Gómez Esteban, Bouafif Mariem, Ramos Daniel. Introduction to Speech Processing, 2022.
- Gómez, Esteban, Javier Jaimovich. “Designing a Flexible Workflow for Complex Real-Time Interactive Performances.” Proceedings of the International Conference on New Interfaces for Musical Expression, 2016.

### Talks

- Neural networks for real-time speech processing. Sound Engineering, University of Chile, 2022.
- Introduction to artificial intelligence in audio. Sound Engineering, University of Chile, 2021.
- Real-time Audio Technology Implementation Workshop, Sound Technology, Duoc UC, 2020.
- About Immersive Audio Techniques and Technologies, Audiovisual Programming, Sound Engineering, University of Chile, 2020.
- Plugin development in Max for Live. Formula to implementation. Advanced Topics in Audio Technology, Berklee College of Music, 2017.
- Designing Max for Live plugins for live performances. Ableton User Group Valencia, Berklee College of Music, 2017.
- Introduction to Gen in Max and Max for Live. Advanced Topics in Audio Technology, Berklee College of Music, 2017.
- Interactive Platform Design in Max/MSP. A/V Arts Fest, Startup Chile and Arts Faculty, University of Chile, 2016.