

# Emir Chacra

*Ph.D. student in Computer Music*

*M.S. in Applied Mathematics*

*www.emirchacra.com*

## ABOUT

*Full Name* Emir Nicolás Chacra Garrido  
*Birth* 1st of October, 1996  
*Nationality* Chilean  
*City* San Diego, California  
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## EDUCATION

**UC San Diego, Ph.D. in Computer Music** 09/23 - Ongoing

**Universidad de Chile, M.S. in Applied Mathematics** 03/21 - 05/22

**Grade:** 6.8 out of 7.0 (GPA of 4.0). Graduated with honors.

**Dissertation:** “Optimization of the anisotropic elastic properties of a mechanical metamaterial for the design of wooden musical instruments”.

**Advisor:** Axel Osses.

**Universidad de Chile, Mathematical Engineering** 03/15 - 05/22

**Grade:** 7.0 out of 7.0 (GPA of 4.0). Graduated with honors.

## RESEARCH EXPERIENCE

**INRIA Chile, R&D Engineer** 03/23 - 08/23

**Advisor:** Hugo Carrillo.

**Main project:** Numerical solutions to nutrient transport equations coupled with fluid dynamics, using *Physics Informed Neural Networks*.

**CMM, Universidad de Chile, Research Assistant** 07/22 - 07/23

**Advisor:** Axel Osses.

**Main project:** Modeling of Urban Resilience in the context of Climate Change research.

**CMM, Universidad de Chile, Research Assistant** 01/21 - 03/21

**Advisors:** Jocelyn Dunstan, Alejandro Maass.

**Main project:** Numerical simulations based on *Physics Informed Neural Networks* for the ocean’s dynamics equation.

**ALeRCE, Universidad de Chile, Research Assistant** 04/19 - 12/19

**Advisor:** Francisco Förster.

**Main project:** Development of Domain Adversarial Neural Network to classify astrophysical objects from several astronomical catalogues.

## MUSIC PRODUCER EXPERIENCE

**Panoramas - mncrmo (LP)** 11/22

Producer and mixing engineer as *mncrmo*.

**Ambientes - mncrmo (EP)** 11/22

Producer and mixing engineer as *mncrmo*.

<b>Vapor - mncrmo (Single)</b>	02/22
Producer and mixing engineer as <i>mncrmo</i> .	
<b>Neonatología - Nuevalengua (LP)</b>	08/18
Co-Producer.	

## PUBLICATIONS

### Peer-reviewed journal articles

1. S. Gonzalez, **E. Chacra**, C. Carreño, C. Espinoza, “Wooden Mechanical Metamaterials: towards tunable wood plates”, *Materials and Design*, 221, 110952, 2022.

### Conference proceedings

2. C. Espinoza, C. Carreño, **E. Chacra** and S. Gonzalez, “MetaWood: manipulation of the elastic properties of wood plates by periodic hole patterns”, 2022 Sixteenth International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials), 2022, pp. 139-141.

## TEACHING EXPERIENCE

### University of California, San Diego

- Computer Music II, TA. Spring 2024 (1 quarter).
- Hip Hop, TA. Winter 2024 (1 term).
- Computer Music I, TA. Fall 2023 (1 quarter).

### Universidad de Chile

- Probability and statistics, TA. Fall 2020, Fall 2022, Spring 2022 (3 terms).
- Numerical analysis of partial differential equations, TA. Fall 2022, Fall 2021 (2 terms).
- Probability and statistics in Data Analysis, TA. Fall 2019 (1 term).
- Statistics, TA. Spring 2018 (1 term).

## BASS PLAYER EXPERIENCE

<b>mncrmo</b>	01/22 - Ongoing
<b>Recordings:</b> Ambientes EP (2022).	
<b>Nuevalengua</b>	05/16 - 09/18
<b>Recordings:</b> Neonatología LP (2018).	
<b>Live performances:</b> Converse Bold Park (2016), Festival Walén (2016), Nuevalengua at Goodstock Bar (2017), Nuevalengua at “La Casa del Sol” (2018).	

## PERSONAL SKILLS

<i>Programming</i>	C++ (Advanced) Python (Advanced) Git (Moderate) Pytorch (Moderate) TensorFlow (Moderate)
<i>Languages</i>	Spanish (Native Speaker) English (Advanced, 107/120 TOEFL iBT Home Edition) French (Basic, university Courses)