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.

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. Espinoz, 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

- MUS 172: Computer Music II, TA. Spring 2024 (1 quarter).
- MUS 171: Computer Music I, TA. Fall 2023, Winter 2025 (2 quarters).
- MUS 170: Art of Sound, TA. Fall 2024 (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).

MUSIC PRODUCER EXPERIENCE

early riser - monocromo (EP) 11/24
Producer as *monocromo* and mixing engineer as *Emir Chacra*.

Panoramas - monocromo (LP) 06/23
Producer as *monocromo* and mixing engineer as *Emir Chacra*.

Ambientes - monocromo (EP) 11/22
Producer as *monocromo* and mixing engineer as *Emir Chacra*.

Neonatología - Nuevalengua (LP) 08/18
Co-Producer as *Emir Chacra*.

BASS PLAYER EXPERIENCE

monocromo 01/22 - Ongoing
Recordings: Ambientes EP (2022).

Nuevalengua 05/16 - 09/18
Recordings: Neonatología LP (2018).
Live performances: Converse Bold Park (2016), Festival Walén (2016), Nuevalengua at Goodstock Bar (2017), Nuevalengua at "La Casa del Sol" (2018).

PERSONAL SKILLS

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