

Enrique Díaz Ocampo

MATHEMATICIAN | SCIENTIFIC COMPUTING | VOICE & DATA SCIENCE

Academic profile spanning operator theory, mathematical modeling, acoustic voice analysis, machine learning, and reproducible scientific software.

AFFILIATIONS

PhD Student in Mathematics

Universidad Autónoma del Estado de Morelos (UAEM), Morelos

Scientific Associate

VOX Institute, Geneva

Instructor

Colegio Universitario Científico de Datos (COCID)

EDUCATION

PhD in Mathematics

UAEM | In progress

MSc in Computer Science (Artificial Intelligence)

CENIDET | 2023 | Honorable Mention

BSc in Applied Mathematics

BUAP | 2019

CORE SKILLS

Python R C LaTeX

Git/GitHub TensorFlow

Praat Raven Pro

Statistics Scientific ML

FOCUS AREAS

- Singular integral operators and Fredholm theory
- Haseman boundary value problems with shift
- Acoustic voice analysis and biomedical AI
- Optimal control and mathematical modeling
- Reproducible scientific software

LANGUAGES

Spanish - Native

English - Professional working proficiency

PROFILE

Applied mathematician and scientific programmer connecting rigorous mathematical analysis, data-driven modeling, and computational tool development. Current doctoral research studies algebras of singular integral operators with piecewise quasicontinuous data on geometrically irregular curves, including Haseman problems with shift on cusp-like structures.

SELECTED CONTRIBUTIONS

Operator Theory

Local operator calculus, shifts, Wiener-Hopf structures, Schur reduction, and Fredholm obstructions.

Voice & Health AI

Acoustic feature extraction, robust voice classification, biomedical datasets, and automated audio workflows.

Scientific Software

Python and R tools for symbolic computation, interactive analysis, reproducible reports, and teaching.

EXPERIENCE HIGHLIGHTS

Contributor, Bridge2AI-Voice Dataset

2025

Collaborated on an ethically sourced, diverse voice dataset linked to health information.

Data Science Instructor, COCID

2024 - present

Designs and teaches applied training in Python, data analysis, research methods, and machine learning.

Voice Research Consultant, USF Morsani College of Medicine

2023

Automated audio dataset construction, extracted acoustic features, and supported machine-learning studies of voice pathologies.

SELECTED PUBLICATIONS

Sex Recognition of Teen and Adult Voices in Non-Tonal and Tonal Languages in Uncontrolled Environments

Cómputo y Sistemas, 29(1), 2025.

An Overview of Sex Recognition Systems Using Acoustic Voice Analysis

Research in Computer Science, 152(4), 2023.

Optimal Control for a Bone Metastasis with Radiotherapy Model Using a Linear Objective Functional

Mathematical Modelling of Natural Phenomena, 17, 32, 2022.

RECOGNITION

Eugene N. Myers Award | American Laryngological Association | 2023

Recognized for research on derivatives of fundamental frequency in multilingual voice gender recognition under noisy conditions.