

Satyarth Arora

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PUBLICATIONS

S.Arora and C.Bennett Fast Algorithms for BlackBox Modeling of Static Hammerstein Nonlinearities. (Oct 2022)
📄 Paper

EXPERIENCE

Music Engineering, University of Miami Coral Gables, Florida
Visiting Lecturer Aug 2024 – Present, Full-time

- Instructor for Audio Software Development II (MUE 504/604)
- Designed Teaching modules for writing Analysis, Prototyping and Build Tools for Digital Audio Effects and Synthesizers

Computer Science, University of Miami Coral Gables, Florida
Head Teaching Assistant Aug 2023 – Present, Full-time

- Manager for all Teaching Assistants in the Computer Science Department
- Secondary Instructor for Operating Systems (CSC 421), System Programming (CSC 322), Computer Networks (CSC 424), Computer Programming II (CSC 220)
- Lab Instructor for Data Science with R (CSC 120)

EDUCATION

University of Miami Coral Gables, Florida
PhD in Computer Science; Advisor: Dr Mitsunori Ogihara Aug 2023 – May 2026
Research focused on Antialiasing Algorithms and Semantic Audio

University of Miami Coral Gables, Florida
M.S in Music Engineering Technology; Advisor: Dr Christopher Bennett Aug 2021 – May 2023
Research Focussed on DSP Algorithm Optimization and Audio Software Development GPA : 3.9/4

PROJECTS

AuxPort | [GitHub](#)

- Independently developed open source C++ library that provides Audio, DSP, and GUI modules for Audio Software Development.

WatchDog | [GitHub](#)

- Real time gunshot detector and response system
- Wrote the audio recording and network streaming library that sends in audio input to the Gunshot Detection Module

AuxPlugins | [Website](#)

- Assorted Audio Effects and Synthesizer Plugins
 - *AuxRumble* – Psychoacoustic Bass Enhancer for Small Speaker setups
 - *AuxWiden* – Filter based Stereo Widener
 - *AuxShaper* – Bezier Curve based Waveshaper with Antialiasing
 - *AuxSynth* – Additive Harmonic Synthesizer
 - *AuxRack* – Effect Rack with Pitch Bend, Delay, Distortion, Filters

SKILLS

Languages | **Frameworks** C++, C, MATLAB, C#, Java, Python, JavaScript, SQL, Objective-C | JUCE, RackAFX, ASP.NET, p5.js

Methodologies | **Technologies** Agile, Scrum, OOP, Functional Programming | MS-SQL, Oracle SQL, OWL Data Diode, Git, Arduino, CMake

Libraries: CURL, uvgRTP, LibTorch, RTAudio, PortAudio