SHASHANK ASWATHANARAYANA

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My interdisciplinary research spans spatial/3D audio, psychoacoustics, music, and religious studies. My present research explores the acoustics of Hindu temples and the characteristics of sounds used in Hindu religious worship as they relate to the mechanical effects on human consciousness. Through it I plan to develop and define new methods of acoustic characterization that would be apt for Hindu worship spaces.

EDUCATION

PhD Media Arts and Technology — Dec 2022
University of California, Santa Barbara

MM Music Technology — May 2014
New York University

BE Electronics and Communication Engineering — June 2012
Visvesvaraya Technological University

AWARDS AND ACCOMPLISHMENTS

Emergent Ventures India grant - $21000 — Sept 2023
A research and travel grant to support the fieldwork component of the Acoustics of Hindu Temples project

Panelist, "Reorientation" event — Nov 2022
This event was a chance for students who had recently achieved the ABD milestone to connect and engage senior ABD students who were part of the panel.

Block Grant Fellowship (MAT department, UCSB) - $4000 — Sept 2022

Commencement Student Speaker — June 2022
Selected to deliver the student address among 435 graduates for the UCSB Graduate Division commencement ceremony.

Academic Senate Doctoral Student Travel Grant - $400 — Apr 2021

Corwin Award for Solo Percussion (3rd Prize) — May 2019

Baden Württemberg Stipendium - €4500 — June 2017
Research fellowship to conduct PhD research at Hochschule für Gestaltung, Germany

Corwin Award for Solo Percussion (3rd Prize) May 2017

Block Grant Fellowship (MAT department, UCSB) - $15000 Sept 2016

Achiever Award (Outstanding student of the year) June 2010

PUBLICATIONS

Aswathanarayana, S. (2021, May). Comparison of Spatialization Techniques with Different Music Genres II. In *Audio Engineering Society Convention 150*. Audio Engineering Society.

Aswathanarayana, S. (2020, Oct). Comparison of Spatialization Techniques with Different Music Genres. In *Audio Engineering Society Convention 149*. Audio Engineering Society.

Aswathanarayana, S. (2017, May). Effect of a Known Environment on the Estimation of Sound Source Distance. In *Audio Engineering Society Convention 142*. Audio Engineering Society.

Aswathanarayana, S., & Roginska, A. (2014). I Hear Bangalore3D: Capture and Reproduction of urban sounds of Bangalore using an Ambisonic Microphone. Proceedings of the International Conference on Auditory Display (ICAD), New York, June, 2014.

TEACHING EXPERIENCE

University of California, Santa Barbara Jan 2023 to July 2023
Academic Coordinator, Physics

- Directly manage teams of 3-4 graduate students per course, 2-3 courses per quarter, ensuring deadlines are met and high-quality education products are delivered to thousands of students.
- Coordinate TAs, faculty and staff as part of the Instructional Lab Group that runs the full breadth of courses at UCSB Physics.

University of California, Santa Barbara Jan 2017 to Sept 2022
Teaching Assistant, Physics

- Taught the PHYS6L series, a 3-part introductory undergraduate lab for non-physics majors averaging 120 students per quarter, covering the following topics: Kinetics and kinematics, waves, electricity, magnetism, optics, and nuclear physics
- Taught for 11 quarters and 3 summers totaling to 1460 students over the period.
- Lead TA for the series starting Fall 2019. As lead TA, I was responsible for conducting TA meetings and coordinating with the instructor for proctoring exams.
- Helped design course material when classes moved to virtual instruction in April 2020.

University of California, Santa Barbara Sept 2018 – Dec 2018
Teaching Assistant, Media Arts and Technology

- Designed and held weekly section classes that complemented the lectures in the Introduction to Music Technology course.

- The section classes gave a practical outlook to the topics covered in lecture and gave the students an opportunity to get hands-on experience with some of the software tools used in the field of Music Technology.
- Graded weekly quizzes.

GUEST LECTURES AND INVITED TALKS

California Polytechnic State University

- How theatre and music are intertwined in India — Fall 2021
- The compositional process for background music in a play — Fall 2021

University of California, Santa Barbara

- Introduction to North Indian Classical Music — Fall 2022
- Introduction to North Indian Classical Music — Summer 2022
- Introduction to North Indian Classical Music — Spring 2022
- Introduction to North Indian Classical Music — Winter 2022
- Introduction to North Indian Classical Music — Fall 2021
- Rhythms in Indian and Middle Eastern Music — Fall 2021
- Rhythms in Indian and Middle Eastern Music — Spring 2019
- How do we Listen? A look into the world of 3D Audio — Winter 2019
- Virtual Surround Sound — Fall 2018

Hochschule für Gestaltung, Karlsruhe, Germany

- Spatialization and Music Genres — Summer 2017

RESEARCH AND INDUSTRY EXPERIENCE

Postdoctoral Fellow, American University, USA — August 2023 – Present

- Researcher in the Audio Technology program working on a project, "Acoustics of Hindu Temples."

Music Composer, California Polytechnic State University, USA — Sept 2021 – Nov 2021

- Composed, recorded, mixed, and mastered all the tracks for the play, "Writer's Block" (an original ensemble script)

Humtap Inc., San Francisco, USA — July 2014 to May 2016
Research Engineer

- Research and Development in music information retrieval, specifically focusing on music content analysis by extraction and interpretation of musical features such as rhythmic structure, pitch detection, segmentation.
- Developed automated analysis of large databases of musical material matching human perception and media exports to third party REST APIs.
- Implemented an automatic evaluating mechanism for sound files generated from the App.
- Evaluated various music content analysis algorithms and implemented prototypes.

New York University, New York, USA Feb 2013 to May 2014
Research Assistant

- Cross-Cultural perception of Indian Classical Music. Analyzing the emotional responses of Western listeners to Indian Classical Music.
- The aim was to see if people unfamiliar with a genre could perceive intended emotions of the music.

PROFESSIONAL TRAINING

Applications in Communication Acoustics
RWTH Aachen University and TU Dresden, Online, March 23, 2020

PROFESSIONAL SERVICE

Peer-Reviewer Audio Engineering Society 155th Convention, July 2023

Peer-Reviewer Audio Engineering Society 154th Convention, Jan 2023

Peer-Reviewer Audio Engineering Society 153rd Convention, Aug 2022

Peer-Reviewer Audio Engineering Society 152nd Convention, Mar 2022

COMMUNITY SERVICE

Spandana NGO Trust
Trustee, Bengaluru, India, 2016-Present

Sri Vivekananda Sevashrama
Volunteer, Bengaluru, India, 2003-2012

PROFESSIONAL AFFILIATIONS

Audio Engineering Society

Acoustical Society of America