

James Obermaier

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I'm an acoustic engineer with a Bachelor of Engineering degree in Acoustic Engineering from Worcester Polytechnic Institute, now based in the Boston Area. I have a passion for sound and acoustics, strong organizational skills, and I love tackling new challenges. I'm adaptable, eager to learn, and ready to dive into the next exciting project.

Education

Worcester Polytechnic Institute, Worcester, MA

Bachelor of Science in Acoustic Engineering, May 2024; GPA: 3.85

Honors: Graduation with High Distinction, WPI Presidential Scholarship, WPI Global Scholarship

Relevant Coursework: Mechanical Vibrations, Mechatronic Systems, Continuous and Discrete Time-Signal Analysis, Engineering Design, Making Music with Machines, Music and Mind

Professional Experience

Noise & Vibration Engineering Intern

SharkNinja, Needham, MA

June 2024–Present

Researched noise origins in home appliances to understand reduction possibilities and limitations. Measured noise levels of multiple SharkNinja products in a hemi-anechoic chamber and clearly communicated findings to the team. Investigated, redesigned, and tested various parts in Shark products, achieving significant noise reduction.

Acoustic Engineering Intern

Lencore Acoustics LLC, Huntington, NY

May 2022–August 2022

Assembled and modified test fixtures and procedures. Performed tests on various electronic components, systems, and products. Interpreted data through a variety of software such as Ease Focus 3 and REW. Contributed charts and graphs to product literature.

Projects

Introduction to Acoustics Course Development

Worked collaboratively in a project team to perform extensive research focused on acoustics, sound fields, and vibration. Synthesized findings along with insights from our professor's tenure at Bose. Pioneered the development of a term-long course curriculum, crafted slide decks for lectures, and created laboratory experiments and demonstrations to complement course material.

Key Texts: Acoustics – Beranek and Mellow, Acoustics for Engineers – Xiang and Blauert, Acoustic Waves – Ole Nielson

Custom Speaker Project

Researched acoustic and sound systems. Defined qualitative criteria and created a document for monitoring progress. Designed a custom amplifier and enclosure using NI Multisim, Tina TI, and Windows Interface for Subwoofer Design (WinISD). Compiled a bill of materials, conducted assembly and testing for functionality, and planned out the speaker on a perf board with a custom-built enclosure.

Towards a Transformative Housing Model for the City of Cape Town, South Africa

Provided onsite assistance to the City of Cape Town's Human Settlement Directorate (HSD) in developing an innovative, sustainable, and integrative housing model. Conducted interviews with engineers, urban planners, NGOs, and marketing experts, and conducted extensive documentary research. Distilled nine critical insights addressing deficiencies in social amenities, location significance, collaboration needs, and social inequalities. Produced a comprehensive guideline document titled "Proposed Guidelines for a Transformative Housing Model."

WPI Extracurricular Involvements

Outing Club – President (Feb 2022 – Jan 2024)

Student Government Association – Financial Senator (Jan 2023 – Jan 2024)

Lambda Chi Alpha Fraternity - Undergraduate House Manager (Jan 2022 – Dec 2022)

Skull Senior Honor Society (Jan 2023 – May 2024)

Skills

Arduino, Python, MATLAB, SolidWorks, Fusion 360, Audacity, Ableton, Max, Room EQ Wizard