Aaron Willette

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WORK EXPERIENCE

Acoustical Consultant – *Arup; Seattle, WA* **Sep. 2020 – Present**

- Works with architects, engineers, and other consultants to achieve excellent acoustic performance in building projects such as concert halls, offices, event spaces, and more
- Proficient in measurements, calculations, and documentation of room acoustics, sound isolation, and HVAC noise
- Leads development of new modeling and auralization tools and capabilities
- Provides deep technical rigor, attention to detail, and clear communication to complex coordination issues
- Composed sound art installations in collaboration with local architects for Seattle Design Festival 2021 - 2025
- Key projects: Indiana School for the Blind, SEA airport expansion, Winspear Concert Hall, confidential talent agency screening room and listening lounge

Systems Verification Intern – *Shure Inc; Niles, IL* **Jun. 2019 – Aug. 2019**

- Wrote python and powershell scripts to automate testing procedures for industry-leading audio conferencing system
- Gained experience testing DSP blocks, audio routing, simulated I/O, etc.
- Helped develop and document in-house testing framework to increase test-writing efficiency and code organization

PERSONAL PROJECTS

Gesture Controlled Vocal Effects Processor: [video demo coming soon]

- Self-contained hardware/software effects processor that allows parameter control via hand gestures
- Custom-coded effects include doppler-based pitch shift, formant shifting, delay, and wave-shaping distortion
- Built on Daisy Seed platform, all functionality coded in C++

ORBit: [video demo: https://youtu.be/DYR7DBklKRk]

- Virtual reality musical instrument/environment created for Immersive Media course. Player controls pitch and timbre of sounds by moving objects in physical space. Designed to be intuitive and fun for users with any amount of musical experience. Built in Unity for Oculus Rift.
- Designed and implemented all interactions, position-to-sound mappings, and audio effects.

InvisoVR: [video demo: https://youtu.be/h5cq6HusX3U poster: https://shorturl.at/iuEQX]

- System for prototyping spatial audio environments from within VR. Users create soundscapes using intuitive yet powerful and immersive interface, allowing rapid creation of medium-fidelity sound models with no coding experience required. Built in Unity for Oculus Rift.
- Implemented project structure, custom interaction mechanisms, and visual design from scratch.

EDUCATION

The University of Michigan – Ann Arbor **Aug. 2016 – Apr. 2020**
Bachelor of Science in Sound Engineering
Minor in Computer Science
Minor in Electrical Engineering
Overall GPA: 3.7
Relevant Coursework: EECS 452 (Digital Signal Processing Design Lab), EECS 485 (Web Systems), EECS 281 (Data Structures and Algorithms), PAT 443 (Immersive Media), PAT 102 (Psychoacoustics)

PROGRAMMING LANGUAGES AND SKILLS

Programming Languages: C, C++, C#, Python, Java, Matlab, HTML/CSS/Javascript, ReactJS, LaTeX
Technologies & Skills: Unreal+Unity, Max/MSP, Wwise, 3D modeling, Virtual Reality, Audio recording/processing/analysis