AARON WILLETTE

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Seattle, WA 98107

WORK EXPERIENCE

Acoustics Consultant – Arup; Seattle, WA

- 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, HVAC noise, etc
- Worked as part of internal research team developing cutting edge, game engine-based architectural auralization tool
- Led research into new state-of-the-art acoustic modeling software offerings
- Composed sound art for installations at Seattle Design Festival 2021, 2023, and 2024

Systems Verification Intern – Shure Inc; Niles, IL

- Wrote python scripts to automate testing procedures for industry-leading audio conferencing system
- Gained experience testing DSP blocks, audio routing, simulated I/O, etc.
- Created windows powershell scripts to control remote networked devices
- Helped develop new version of in-house testing framework to increase test-writing efficiency and code organization
- Documented all tests written, upholding best practices for python docstrings, comments, and high-level descriptions

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, harmonizer, delay, wave-shaping distortion
- Built on Daisy Seed platform, all functionality coded in C++

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

- 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

Bachelor of Science in Sound Engineering Minor in Computer Science Minor in Electrical Engineering **Overall GPA:** 3.7 **Relevant Coursework:** EECS 485 (Web Systems), EECS 452 (Digital Signal Processing Design Lab), EECS 281 (Data Structures and Algorithms), PAT 443 (Immersive Media), PAT 102 (Psychoacoustics)

PROGRAMMING LANGUAGES AND SKILLS

The University of Michigan – Ann Arbor

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

Aug. 2016 - Apr. 2020

Jun. 2019 – Aug. 2019

Sep. 2020 – Present