AARON WILLETTE

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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 485 (Web Systems), EECS 452 (Digital Signal Processing Design Lab), EECS 281 (Data Structures and Algorithms), PAT 443 (Immersive Media)

WORK EXPERIENCE

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

- Worked with architects, engineers, and other consultants to achieve excellent acoustic performance in building projects such as concert halls, offices, event spaces, and more
- Developed skills in 3D modeling and visualization/auralization
- Worked as part of internal research team developing cutting edge, game engine-based architectural auralization tool
- As part of above research effort, coded a custom method of streaming audio over WebRTC
- Composed sound art for an installation at Seattle Design Festival 2021

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

- 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

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.

CrowdInC: [github: https://goo.gl/jdEQFA paper: https://dl.acm.org/doi/10.1145/3325480.3329178]

- Web-based, audience-powered musical performance system. Supports 100+ participants at once.
- Added real-time bidirectional communication between players, data logging for statistical analysis, and a comprehensive UI refresh.

InvisoVR: [video demo: https://youtu.be/h5cq6HusX3U poster: 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 models, and visual design from scratch.

PROGRAMMING LANGUAGES AND SKILLS

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

See back for references

REFERENCES

Prof. Anıl Çamcı
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