AARON WILLETTE

awillette98@gmail.com | aawill.github.io
(734) 680-4127
Ann Arbor, MI 48104

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 351 (Digital Signal Processing), EECS 281 (Data Structures and Algorithms), PAT 443 (Immersive Media)

WORK EXPERIENCE

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

Undergraduate Research Assistant/Team Lead – *The University of Michigan;* Ann Arbor, MI **May 2018 – Dec. 2019**

- Lead research team exploring systems for prototyping 3D spatial audio environments in virtual reality
- Developed a distributed, synchronized musical performance system using WebAudio and PubNub
- Constructed and maintained features for a large-scale, distributed UI prototyping tool
- Managed team of peers, effectively distributing tasks and coordinating engineering effort

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:

- 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, Virtual Reality, Audio recording/processing/analysis

See back for references

REFERENCES

Prof. Anıl Çamcı
Assistant Professor, Performing Arts Technology
University of Michigan, SMTD
acamci@umich.edu

Prof. Sang W. Lee
Computer Science Dept.
Virginia Tech
sangwonlee@vt.edu

Nicholas Giannopoulos
Engineer II, Systems Verification
Shure Inc
giannon@shure.com

Andrei Vesa
Engineer II, Systems Verification
Shure Inc
vesaa@shure.com