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 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 cutting-edge conferencing audio 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 – Present
- Leading 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 Apparition, a crowd-powered UI prototyping tool [https://goo.gl/s7GWV1]
- Managed team of peers, effectively distributing tasks and coordinating engineering effort

PROJECTS

CrowdInC [https://goo.gl/jdEQFA]:
- Web-based audience participatory musical performance platform. Features added include real-time bidirectional communication between clients, data logging for statistical analysis, and a comprehensive UI refresh.
- Video of recent performance: [https://youtu.be/ks1W-rLFqig]

ORBit:
- 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. Made with Unity, currently compatible with Oculus Rift.
- Video demonstration: [https://youtu.be/jn0rw8LUXHI]

Creative AI music generator [https://goo.gl/zFMW1t]:
- Uses trained models to procedurally generate melodies in the style of MIDI training data. Generates accompanying bassline and harmony using Max/MSP and UDP communication.
- Samples trained on video game soundtracks can be heard here: [https://goo.gl/4j8cEb]

PROGRAMMING LANGUAGES AND SKILLS

Programming Languages: C/C++, Python, Java, Matlab, HTML/CSS/Javascript, LaTeX
Technologies & Skills: Git, Unity game development (including VR), Audio recording/processing/analysis

See back for references

REFERENCES

Prof. Walter S. Lasecki
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