David A. Buzzell

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EDUCATION

Carnegie Mellon University, Pittsburgh PA
Bachelor of Science in Electrical and Computer Engineering — *May 2017*
Bachelor of Science in Music and Technology — *August 2017*

WORK EXPERIENCE

DSP Software Engineer at DSP Concepts — *July 2021 – present*

- Manage unit testing project by adopting Googletest C++ framework
- Implement a Python interface for the embedded C audio library with ML application
- Architect new audio signal designer tool for PC with C++ and Python interfaces

QA Test Software Engineer at DSP Concepts — *May 2020 – July 2021*

- Architect new Python package for embedded automated deployment through Jenkins
- Extend audio regression test scripts for the AudioWeaver MATLAB platform
- Built software test plan for embedded software products running on Cortex-A/M, Tensilica HiFi, Hexagon DSP, and SHARC+ target architectures
- Established code quality analysis and automated reporting for MISRA compliance

Software Engineer at iRobot

Robot Simulator Specialist — *November 2019 – March 2020*

- Supported uptime of simulated robots in AWS Robomaker running 50 mission hrs/day
- Enhanced automatic log extraction to evaluate simulated robot performance for every robot cleaning mission and auto-populate online reports through SQL queries
- Reviewed contributions to 3 different code repositories in C++, ROS, and Python

Automation Infrastructure Developer — *February 2019 – November 2019*

- Architected new company-wide Python automation for robot software testing
- Automated robot log file evaluation, reducing manual log review time by 5 hrs/week
- Reduced manual testing time by 30% through weekly 1:1 training sessions
- Pioneered 466 code standards (Pylint) and distributing code documentation (Sphinx)

Product Delivery QA — *November 2017 – February 2019*

- Designed 40% of manual test plan for next-gen autonomous cleaning robot software
- Assisted factory operations in quality assurance for release of the Braava Jet m6 robot

RESEARCH PROJECTS

Depth-Controlled Ambisonic Audio — *May 2017 – August 2017*

- Interfaced with Microsoft Kinect sensor to track user movements in a 360° speaker ring
- Relayed these movements through MaxMSP to 2nd order ambisonic audio processing
- Replicated a 3D auditory experience by decoding signals for an 8-channel output

RELEVANT SKILLS

Languages: Python, C, C++, Bash, SQL, Groovy (Jenkins), MATLAB, CMake
Libraries: MaxMSP, EAGLE, ROS, AudioWeaver, Pytest, Jupyter
Targets: Arduino, Raspberry Pi, STMicro, NXP, Android
Tools: Git, RegEx, Sphinx, Doxygen, JIRA, Pytest, Googletest
Audio: Ableton Live, Pro Tools, Audacity, MuseScore, Reason, OSC, Audio Weaver

COURSEWORK

18-491: Fundamentals of Signal Processing
18-551: Signal Processing Systems Design
57-347: Electronic & Computer Music
18-349: Embedded Real-Time Systems
18-493: Electroacoustics
15-323: Computer Music Info Processing