SaraAdkins

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web & git
saraadkins.com
github.com/Satrat

programming
♥ C/C++, Python(Pandas, SkLearn), SML, Java, C#, Perl, Assembly, CUDA, OpenCV

software
Max MSP, PureData, Unity, Logic Pro X, ProTools, MATLAB

hardware
Raspberry Pi, Arduino, Microsoft HoloLens & Kinect, Leap Motion

music
guitar(classical, folk, rock), viola, audio engineering & mastering, sound design

honors & awards
Senior Leadership Recognition Award, Armero Memorial Award for BCSA, Google igniteCS Grant, Holleran Scholar, Deans List S16-S18

organizations
Phi Kappa Phi, Sigma Alpa Iota

experience

2018–Now **Bose Corporation, Wellness Division** Boston, MA
Software Engineer
Responsible for optimizing and integrating machine learning algorithms into concept prototypes and hardening them into production quality applications.

2017 **Bose Corporation, Automotive Systems Division** Boston, MA
Software Engineering Intern
Developed low latency Windows audio I/O and control drivers used to interface with DSP Simulink models and simulate automotive amplifier products.

education

2014–2018 **Carnegie Mellon University** Pittsburgh, PA
Bachelors of Computer Science & Arts in Computer Science & Music Technology
University Honors, Intercollege Honors, 3.6 GPA

selected projects

2017-2018 **Creating with the Machine: Algorithmic Composition for Live Performance**
Three pieces combining algorithmic composition with improvisation. Audio input from performing musicians influenced music generation through Markov chains and LSTM neural networks. Armero Memorial Award Winner.

2017 **Raytracing Sound in 3D Space for Augmented Reality**
Hololens app that creates ambisonic reverb simulations influenced by room layout and user location. Reverb simulations created using a data parallel ray tracing algorithm, able to process 10 audio sources on the CPU with low latency.

2017 **Let's Go: An Algorithmic Step Sequencer**
Interactive soundscape composition that uses OpenCV to detect locations of game pieces on a Go board and dynamically transform them into music during gameplay.

2016 **Resume Parser and Classifier**
Parses and scores PDF resumes in a variety of job categories. Determines best job category for each applicant. Outputs sorted candidates in a LaTeX document.

2014-2018 **RobOrchestra**
Ensemble of Arduino-controlled robotic instruments that interpret standard MIDI. Algorithmically generates unique polyphonic music controlled through a GUI.

leadership

2018 **The Unusual Ensemble Challenge** Sigma Alpa Iota
Lead a team of 5 to organize a contemporary music festival at Carnegie Mellon University that premiered 7 new student compositions for small ensembles.

2015-2017 **VP of Finance** Project Ignite
Secured over $7500 in grant funding and managed the budget for 10 STEM projects in an organization that provided project-based mentorship to high school students.

publications

Co-author **"Perceiving texture gradients on an electrostatic friction display"**
Developed a haptic keyboard for Android. Conducted experiments testing viability of non-visual navigation on tablets. Published in 2017 IEEE World Haptics Conference.