

Jatin Chowdhury

Audio Signal Processing Engineer

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Education

Stanford University, Center for Computer Research in Music and Acoustics

Palo Alto, CA

M.A. IN MUSIC, SCIENCE, AND TECHNOLOGY

Sept. 2018 - June 2020

- Denning Family Fellowship for the 2018-2019 academic year.
- Relevant Coursework: Advanced Digital Signal Processing, Machine Learning, Spatial Audio, Music Recording.
- Research: Nonlinear Signal Processing, Virtual Analog Modelling, Modal Signal Processing.

University of Southern California

Los Angeles, CA

B.S. IN ELECTRICAL ENGINEERING, PHYSICS (MINOR), MUSIC RECORDING (MINOR)

Aug. 2014 - May 2018

- USC Presidential Scholarship, USC Renaissance Scholar
- Relevant Coursework: Signal Processing, Circuit Design, Digital Logic, Electromagnetics, Software Design.

Experience

Tesla Motors

Palo Alto, CA

AUDIO TEST ENGINEER

Aug. 2020 - PRESENT

- Developed end-of-line tests to ensure audio system quality for vehicles coming off the production line.
- Contributed to testing and validation software for audio system firmware.
- Developed interactive tools reporting the results of previous tests.

Persp3ctive VR

Los Angeles, CA

SOFTWARE/DSP ENGINEER

June 2019 - Mar. 2020

- Developed audio effects for use in a VR audio production environment including a 10-band EQ and a compressor.
- Built DSP framework for integrating effects made by other engineers into the plugin.
- Implemented OSC communication for sharing parameters and metering data with VR headset.

Publications & Presentations

A Comparison of Virtual Analog Modelling Techniques

November 2020

AUDIO DEVELOPER CONFERENCE

London, UK

- Presented a virtual analog model of the Klon Centaur guitar pedal, developed using nodal analysis, Wave Digital Filters, and Recurrent Neural Networks.

Stable Structures for Nonlinear Biquad Filters

Sept. 2020

PROC. OF THE 23RD INTERNATIONAL CONFERENCE ON DIGITAL AUDIO EFFECTS

Vienna, Austria

- Presented at the DAFx-2020 conference.
- Available on the DAFx Archives.

Real-Time Physical Modelling for Analog Tape Machines

Sept. 2019

PROC. OF THE 22ND INTERNATIONAL CONFERENCE ON DIGITAL AUDIO EFFECTS

Birmingham, UK

- Oral presentation at the DAFx-2019 conference.
- Available on the DAFx Archives.

Skills

Programming Languages

C/C++, Python, Bash, MATLAB, Faust, LaTeX, Javascript

Tools/Frameworks

Linux CLI, Visual Studio, CMake, Git, Travis CI, JUCE API, Audio Plugins

Projects

Chowdhury DSP

FOUNDER, ENGINEER

June 2018 - PRESENT

- Developed audio plugins including tape emulation, phaser effects, distortion, and delay matrix effects.
- Designed and developed NewMixer, a unique and revolutionary audio mixing tool.

NoLava Recording Studios

Los Angeles, CA

CO-FOUNDER, AUDIO ENGINEER, TECHNICAL ADVISOR

Aug. 2017 - July 2018

- Recorded, mixed, and mastered for artists of various styles including acoustic, electronic, rock, country, and punk.
- Installed, repaired, and maintained speakers, microphones, keyboards, amplifiers, and other musical equipment.