

# Gregor McWilliam

gregormcw.com

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## EDUCATION

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**NEW YORK UNIVERSITY**, New York City, U.S.

*Master's Degree in Music Technology*, May 2022

Current GPA: 4.0

- Specializations in software engineering, digital signal processing, spatial audio, and deep learning
- Coursework includes Digital Signal Theory, Audio Streaming, MIR, 3D Audio, and Advanced Acoustics
- Dr. Ilpo Martikainen Genelec Audio Visionary Scholarship, 2021-2022; Graduate Student Scholarship, 2020-2022

**INSTITUTE OF CONTEMPORARY MUSIC PERFORMANCE**, London, U.K.

*Bachelor's Degree in Popular Music Performance*, May 2011

Converted GPA: 3.56

- Delivered dissertation concerning prevalence of hyperreality in modern media
- Graduated among top 4% of class and received Best Vocalist award

## PROFESSIONAL EXPERIENCE

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**AUDIO, ACOUSTICS, AND MACHINE LEARNING INTERN**, *MediaTek USA Inc.*, San Jose, U.S., 2021

- Prototype and integrate state-of-the-art DSP and machine learning tools into the company's IoT devices via Yocto
- Build real-time signal analysis applications in C and Python for remote evaluation of voice-recognition performance
- Advise on strategies and potential markets for the company's audio-related technologies

**GRADUATE TUTOR (DSP AND SPATIAL AUDIO)**, *New York University*, New York City, U.S., 2021

- Instruct over 70 students in graduate-level DSP theory, programming, and spatial audio systems design
- Lead tutoring sessions on topics such as the DFT, convolution, beamforming, and crosstalk cancellation

**PROJECT MANAGER AND AUDIO ENGINEER**, *Third Ear Meditation Ltd.*, London, U.K., 2017-2020

- Directed production and implementation of over 40 hours of unique audio content for the popular iOS and Android sound meditation application – twice Apple's "App of the Day"
- Integrated spatial audio technologies to create an immersive, deeply engrossing auditory environment for users

**MUSIC PRODUCER**, *Self-employed*, London, U.K., 2011-2020

- Co-wrote, engineered, produced, and mixed over 800 projects for more than 100 artists across genres
- Developed major commercial productions for corporate clients such as Ford Motor Company

## TECHNICAL PROJECTS

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**IMMERSIVE VIDEOCONFERENCING APPLICATION**, *New York University*, New York City, U.S., Fall 2021

- Built Node.js application that incorporates spatial audio into online videoconferencing
- Implemented real-time communication, HRIR convolution, and dynamic head-tracking

**AUDIO-BASED MEMORY GAME**, *GitHub*, New York City, U.S., Spring 2021

- Created audio-based version of Simon, the classic memory game
- Developed in C, using PortAudio for the application's audio callback function and ncurses for its user interface

**VST SPATIALIZATION PLUGIN**, *GitHub*, New York City, U.S., Spring 2021

- Built VST plugin that accomplishes real-time binaural spatialization of an input signal
- Implemented precise HRIR convolution in C++ using the JUCE framework

**ONLINE PRICE TRACKER**, *GitHub*, London, U.S., Spring 2020

- Created Python application that automatically notifies user via email when item price falls below selected value

## TECHNICAL SKILLS

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**LANGUAGES:** C, C++, Python, JavaScript, Node.js, HTML, CSS, MATLAB

**LIBRARIES / SOFTWARE:** Yocto Project, JUCE, PortAudio, ALSA, ncurses, PyQtGraph, Scikit-learn, Selenium, Smtplib, Logic Pro X

**HARDWARE:** Embedded systems, evaluation boards, MEMS microphone arrays, SSL Duality console

## AFFILIATIONS AND INTERESTS

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**STUDENT:** Immersive Audio Group, Entrepreneurial Institute, Computer Technician

**PROFESSIONAL:** IEEE, AES (member and volunteer at Fall Convention 2020), ISMIR

**INTERESTS:** Software engineering, audio, extended reality, machine learning, technology, entrepreneurship

**HOBBIES:** Reading, distance running, music production, coffee, weight training, rugby