**The Montreal Assembly**
June 2014 – July 2019
Software and driver developer on 856 for Zellersasn project. Conceived, designed and built prototype of audio effects processor (granular synthesizer, sequencer), working with circuit designer. Authored DSP and hardware driver code in C. Built prototypes and testing software in Python and Tcl using gdb and openocd. Built electronic circuit prototypes (on breadboard) of MIDI (UART) and audio codec. Integrated circuit connections to an ARM architecture microcontroller.
***Technologies**: C, Python, numpy, Tcl, openocd, gdb, MIDI, I2S, ARM Cortex-M4*

**McGill University Department of Music Research**
May 2015 – August 2015
Software tester of the Timbretoolbox, a library written in MATLAB for studying psychoacoustic descriptors. Supervised by Stephen McAdams and Philippe Depalle.
***Technologies**: MATLAB*

**McGill University**
January 2015 – April 2015
Course lecturer and teaching assistant. Lectured on creating new media applications using MaxMSP. Teaching assistant for courses on the MIDI, OSC, real-time control of digital signal synthesis and analysis, and DSP algorithms in C++ for musical signal processing.
***Technologies**: C++, OSC, MaxMSP*

**Undefine Productions**
November 2011 – December 2012
Developed C code for microcontrollers for sound installation artworks. Simulated sound installation using sound spatializing algorithms. Programming in C/C++ using openFrameworks. Developed installation controllers in MaxMSP and PureData.
Audio editing with Pro Tools.
***Technologies**: C, C++, openFrameworks, TCP/IP, MaxMSP, PureData*

**Conferences**

Nicholas Esterer and Philippe Depalle. On the design and use of once-differentiable high dynamic resolution atoms for the distribution derivative method. In Proceedings of the 20th International Conference on Digital Audio Effects (DAFx-20), 2017.

Savvas Kazazis, Nicholas Esterer, Philippe Depalle, and Stephen McAdams. Testing the Robustness of the Timbre Toolbox and the MIRtoolbox. In Proceedings of the Fourteenth International Conference on Music Perception and Cognition, page 1. ICMPC, 2016.