Joseph Cleveland

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EDUCATION

Ithaca College
Computer Science B.S.
Graduated Magna Cum Laude. May, 2020

TECHNICAL SKILLS

Languages : C/C++, Java, Python, HTML/JS, SQL
Frameworks/Tools : Flask, JUCE, Git, Unix Terminal
Data Science : Pytorch, Keras, Numpy/SciPy, Librosa

EXPERIENCE

Music Technology Research - Ithaca College **Summer 2019 - Present**
Researched the applications of machine learning to music recommendation and audio synthesis. Implemented neural network models in Pytorch, to compare the efficacy of different architectures for our application. I was the first author for a paper from our lab on using neural nets to assess the audio similarity of songs. I presented the paper at ML4MD 2020, an ICML workshop. **Paper at: https://arxiv.org/abs/2008.04938**

Teaching Assistant - Computer Science and Foreign Languages - Ithaca College **Fall 2018 - 2019**

- **Data Structures** Assisted students in completing programming assignments during lab sections. Course was taught in c++ and focused on the implementation of data structures, memory management and searching algorithms.
- **Computer Organization Systems** Hosted help hours for students. Course material focused on assembly language and the organization of Unix operating systems.
- **Introductory Italian** Taught weekly language lessons to complement lectures. Created lesson plans with professor to engage students in speaking and listening practice while reinforcing grammar concepts.

PROJECTS

Independent Study in Compiler Design **Spring 2019**

Studied the theory and implementation of compilers. Designed a grammar in Baukus-Naur form for simple programming language. Implemented a compiler in C++ for this language with a parser, intermediate representation, and a back-end targeting x86 assembly on MacOS.

Multiplayer Web Game **Fall 2018**

Worked in a team of 3 to develop a real time multiplayer web game where users guessed the titles of songs before their opponents. Back end was implemented in Python/Flask and SQL with a JS/Jquery front end. Web sockets were used for server-client communication. Interfaced with the iTunes API to retrieve song audio. Deployed server on AWS.