

## Education

### Tufts University

Computer Science (BS), May 2019

GPA: 3.94

## Experience

### EditShare, LLC

Software Developer Intern

Watertown, MA

May 2017 - August 2017

- Implemented a new file sharing mode for a network-attached storage based on a distributed Linux filesystem
- Implemented a server API using Twisted Perspective Broker framework to handle Remote Procedure Calls (RPCs)
- Created a cross-platform Graphical User Interface application using the Qt and PyQt frameworks allowing users to make RPCs to the server API

### Tufts University Human - Robot Interaction Laboratory

Research Intern

Medford, MA

October 2016 - April 2017

- Implemented the Python version for the neural field model for real time speech perception project
- Re-implemented the neural field model program using TensorFlow for better scalability and efficiency given the initial implementation of the model in C++
- Doubled the maximum size of the sound data set processable by the model by using sparse tensors
- Modularized the implementation of the neural network by utilizing tensor slicing and joining, allowing the model to support any given number of neural field layers

### Hanoi University of Science High School for Gifted Students (HUS HSGS)

Computer Science Olympiad Team Trainer

Hanoi, Vietnam

May 2016 - August 2016

- Prepared the HUS HSGS Computer Science Olympiad Team, one of the best in Vietnam, for national and international competitions such as the International Olympiad in Informatics
- Taught how mathematics concepts and theorems such as the Hall's marriage theorem or the invariant principle can be applied in computer science
- Introduced the students to advanced data structures, such as Binary Indexed Tree and Interval Tree, and their applications

## Skills

- Languages: Python, C, C++, JavaScript, HTML, CSS, Erlang, Matlab
- Frameworks: Qt, PyQt, jQuery, Node.js, Bootstrap, Twisted, TensorFlow
- Software: Git, valgrind, GDB, pylint
- OS: Linux, OS X, Windows

## Projects

### Gomoku AI

Python and C++ program

- Built two different Artificial Intelligence (AI) programs that can play the game Gomoku
- Used a move score calculation rule based on a defensive strategy to implement the first AI, which followed roughly 80% of predicted moves
- Implemented the second AI using the Minimax Algorithm to determine the best possible move under the assumption that the opponent also played an optimal game
- Researched how a third AI can be implemented using deep learning

### Trailer Nailer

Web application

- Built a web game that allows players to test their movie recognition ability by watching trailers
- Stored information of roughly 200 movies from 5 different genres using MongoDB, and implemented a web server using Node.js to respond to movie information queries
- Embedded in-game movie trailer videos through YouTube Player API
- Enabled players to log in to Facebook, introduce the game and send challenges to friends using Facebook API

### Image Compressor and Decompressor

C program

- Used quantization of pixels and bit-level manipulations to compress each 2x2 pixel block into a 32-bit word
- Reduced roughly 66.7% in image size in compression and restored roughly 98.2% of the original image in decompression