Minh Nguyen

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Education

Tufts University
Computer Science, *GPA 3.92* *2015-2019*

Skills

- Languages: Python, C, C++, JavaScript, Matlab
- Frameworks: jQuery, Node.js, Bootstrap, Twisted, PyQt, TensorFlow
- IDEs: Eclipse, Pycharm, Android Studio, Visual Studio

Experience

EditShare, LLC **Watertown, MA**
Software Engineering Intern, *Summer 2017*
- Used Twisted Perspective Broker framework to implement a server API for management of ACL permissions on media files stored on EditShare file system.
- Used PyQt to implement a client-side graphical user interface application that allows users to utilize the permission management server API.

Tufts University Human - Robot Interaction Laboratory **Medford, MA**
Undergraduate Research Assistant, *Fall 2016 - Spring 2017*
- Implemented the Python version using TensorFlow for the neural field model for real time speech perception project.
- Participated in discussions on how to improve the prediction accuracy of the model.

Hanoi University of Science High School for Gifted Students (HUS - HSGS) **Hanoi, Vietnam**
Computer Science Olympiad Team Trainer, *Summer 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.

Projects

Neural Field for Speech Recognition
Python program,
- Given the implementation of the neural field model in C++, re-implemented the model in Python using TensorFlow for better scalability and efficiency.
- 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.
- The latest version identified spoken words with roughly 60% accuracy.

Trailer Nailer
Web application,
- Implemented a web game that allows players to test their movie recognition based on watching trailers.
- Used MongoDB to implement a database to store movie information, and used Node.js to implement a web server to respond to movie information requests.
- Used YouTube API to embed in-game movie trailer videos.

Image Compressor and Decompressor
C program,
- Used quantization of pixels and bit-level manipulations to transform each 2x2 pixel block into a 32-bit word.
- Reduced (on average) 66.7% in image size. Decompression restored (on average) 98.2% of the original image.
- Used C, written in Linux environment.

Awards and Acknowledgements

Microsoft College Code Competition
Runner-up *2015*
- Member of the runner-up team in Microsoft College Code Competition held at Tufts University. Competed against 11 teams of all class years.

Tufts Polyhack
Top 10 *2015*
- Leader of an all-freshman team at Tufts University Polyhack 2015.
- Designed and implemented 2 games based on the Stroop Test and the Pacman Game in C++.
- Ranked in the top 10 out of 35 projects participating.