Hyunjin Cho
+1 (626) 250-7196
hyunjin-cho@uiowa.edu
https://uiowajincho.github.io

Skills

Languages:
- **Proficient:** C#, Dart, Java, Python
- **Familiar:** C++, Javascript, MATLAB

Frameworks & Libraries: Flutter, OpenCV, PyTorch

Operating Systems: Linux, Mac OS X, Windows

Education

University of Iowa   Aug. 2022 – May 2024

M.C.S. Master of Computer Science   Iowa City, IA

University of Utah   Aug. 2012 – Aug. 2017

B.S. Major in Computer Science (Data track)   Salt Lake City, UT
    Minor in Mathematics

Professional Experience

Gen Sci Lab Research Assistant   Sep. 2022 – Current

Otolaryngology-Head & Neck Surgery   Iowa City, IA
- Early Parkinson's disease detection from pharyngeal High-Resolution Manometry using various CNN and RNN models.
- Collaborative work with the Department of Neurosurgery focusing on the analysis of pitch data from subjects' voice recordings. Additionally involved in developing experimental tools to explore aspects of working memory and learning in relation to voice and pitch.
- PyTorch, Matlab, C#, WPF, Signal Processing
- *Detailed description available at the end of the document.*

Co-founder & CTO   Apr. 2021 – Apr. 2022

DiveFlash   Jeju, South Korea
- Researching image processing algorithms to enhance underwater photographs.
- Prototyped a fish identification neural network.
- Published a mobile application on iOS App Store and Android Play Store named DiveFlash.
- OpenCV, C++, Flutter, YOLO and Python

Java Software Developer Freelancer   Apr. 2020 – Dec. 2020

ICanManagement   Seoul, South Korea
- Developed and maintained Web, Mobile application of SK Magic Inc. Malaysia
- Contract-based work with plans to attend a graduate program post-COVID.
- Java, Javascript, Oracle DB and Linux

System Integration Coordinator   Jan. 2020 – Mar. 2020

Xandar Kardian
- Deployed, calibrated, and configured healthcare devices utilizing Ultra-WideBand radar.
- Collaborated on system integration with products sourced from external companies.
- Contract-based work with plans to attend a graduate program post-COVID.
- C, C#, Javascript, Linux

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Assistant Research Engineer   Dec. 2018 – Dec. 2019

EnDCS   Gyeonggi, South Korea
- Developed combat simulator for the Republic of Korea Navy's Aegis destroyers class battleship KDX-III Batch-II.
- C#, WPF, C++, DDS, TCP, and UDP

Corporal   Nov. 2017 – Nov. 2018

Republic of Korea Army   Gyeonggi, South Korea
- Capital Corp's command center as Army RTO(Radio Telephone Operator)

Undergraduate Researcher   May 2016 – Aug. 2017

University of Utah   Salt Lake City, UT
- Developed automated grading service for CS3505 - Software Practice - II(C++)
- Advised by Prof. David E. Johnson at the University of Utah

Teaching Assistant   Feb. 2016 – May 2017

University of Utah   Salt Lake City, UT
- CS1030 : Foundations of Computer Science
- CS1410 : Object-Oriented Programming
- CS2100 : Discrete Structures

Current Projects

Deep learning-based identification of dysphagia in early Parkinson disease using High Resolution Manometry(HRM).
- Benchmarked using CNN and RNN architectures, including GRU and LSTM variations.
- Processed and prepared raw sensor data for machine learning applications.
- Achieved notable accuracy in several iterations of a 10-fold cross-validation; observed overfitting in specific folds due to data constraints.
- Actively exploring feature extraction and data augmentation strategies to mitigate overfitting issues.

Collaboration with the Department of Neurosurgery
- Conducted pitch data analysis focusing on learning and adaptation in voice pitch tasks.
- Developed a highly customizable software tool to automate voice tasks, ensuring adaptability to diverse experimental parameters. This tool supports patient testing before, during, and after treatment and surgery.