

# Hyunjin Cho

+1 (626) 250-7196

hyunjin-cho@uiowa.edu

<https://uiowajincho.github.io>

## Skills

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### Languages:

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

**Frameworks & Libraries:** Flutter, OpenCV, PyTorch

**Operating Systems:** Linux, Mac OS X, Windows

## Education

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### University of Iowa

M.C.S. Master of Computer Science

Aug. 2022 – May 2024

Iowa City, IA

### University of Utah

B.S. Major in Computer Science (Data track)  
Minor in Mathematics

Aug. 2012 – Aug. 2017

Salt Lake City, UT

## Professional Experience

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### Gen Sci Lab Research Assistant

Otolaryngology-Head & Neck Surgery

Sep. 2022 – Current

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

DiveFlash

Apr. 2021 – Apr. 2022

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

ICanManagement

Apr. 2020 – Dec. 2020

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

Xandar Kardian

Jan. 2020 – Mar. 2020

- 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

EnDCS

- 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

Dec. 2018 – Dec. 2019

Gyeonggi, South Korea

## Corporal

Republic of Korea Army

- Capital Corp's command center as Army RTO(Radio Telephone Operator)

Nov. 2017 – Nov. 2018

Gyeonggi, South Korea

## Undergraduate Researcher

University of Utah

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

May 2016 – Aug. 2017

Salt Lake City, UT

## Teaching Assistant

University of Utah

- CS1030 : Foundations of Computer Science
- CS1410 : Object-Oriented Programming
- CS2100 : Discrete Structures

Feb. 2016 – May 2017

Salt Lake City, UT

## Current Projects

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### 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.