

Hyunjin Cho

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hyunjin-cho@uiowa.edu

<https://uiowajincho.github.io>

Interests

- Applying machine learning to medical data
- Computational epidemiology
- Precision medicine (for rare diseases)

Skills

Languages:

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

Frameworks & Libraries: Flutter, OpenCV, PyTorch

Operating Systems: Linux, Mac OS X, Windows

Current Responsibilities

University of Iowa

M.C.S. Computer Science Student
GPA:3.9

Aug. 2022 – Current
Iowa City, IA

Otolaryngology-Head & Neck Surgery

Gen Sci Lab Research Assistant

Sep. 2022 – Current
Iowa City, IA

Current Projects

Deep learning-based identification of dysphagia in early Parkinson disease using High Resolution Manometry(HRM).

Our present deep learning model, which utilizes RNN and CNN architectures, has been assessed using a 10-fold cross-validation. While it exhibited impressive accuracy in some folds, overfitting was evident in others, largely due to the limited available data. In response to this challenge and to bolster the model's ability to generalize, we are currently delving into data augmentation and feature extraction techniques.

NEAT(Neuro-Evolution of Augmenting Topologies) Based Vaccine Allocation for Effective Epidemic Intervention.

Present findings indicate that reinforcement learning can effectively address vaccine allocation challenges on expansive graphs when trained on node features. While our model demonstrates greater stability compared to other algorithms such as Page Rank, highest degree, and NetShield, the outcomes are currently near-optimal. We are actively researching methods to achieve fully optimal results.

Professional Experience

Co-founder & CTO

DiveFlash

Apr. 2021 – Apr. 2022
Jeju, South Korea

- Researching image processing algorithms to enhance underwater photographs. 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
- Java, Javascript, Oracle DB and Linux

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System Integration Coordinator

Jan. 2020 – Mar. 2020

Xandar Kardian

- Deployed, calibrated, and configured healthcare devices utilizing Ultra-WideBand radar (UWB-Radar). Collaborated on system integration with products sourced from external companies.
- C, C#, Javascript, Linux

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)

Academic Professional Experience

Undergraduate Researcher

May 2016 – Aug. 2017

University of Utah

Salt Lake City, UT

- Developed automated grading service for CS3505 - Software Practice - II(C++) for Prof. David E. Johnson

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

Prior Education

University of Utah

Aug. 2012 – Aug. 2017

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

Salt Lake City, UT

Minor in Mathematics

GPA:3.33