

Hyunjin Cho

PHD STUDENT · COMPUTER SCIENCE

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Research Experience

University of Iowa – Department of Computer Science

Iowa City, IA, USA

ADVISOR: DR. RAHUL SINGH

2024 - Present

- Cancer organoid & parasite segmentation from Bright-field Microscopy image using Topology-based Computer Vision
- Languages: MATLAB, Python, GUDHI

University of Iowa – Department of Neurosurgery

Iowa City, IA, USA

ADVISOR: DR. JEREMY GREENLEE

2023- Present

- Investigating neural connectivity during voice pitch control via ECoG and fMRI.
- Developed and distributed Windows software (GVPT - Guided Visual Pitch Tracking, APT - Auditory Pitch Tracking) to propose a new study paradigm.
- Languages: MATLAB, Python, C#

University of Iowa – Department of Otolaryngology

Iowa City, IA, USA

ADVISOR: DR. MATTHEW HOFFMAN

2022 - Present

- Ulowa Remote Voice - mobile application for remote aging-related voice disorder study in rural Iowa area.
- Languages: Dart/Flutter, Python, Node.js

Education

University of Iowa

Iowa City, IA, USA

PHD STUDENT IN COMPUTER SCIENCE

2024 - present

- Advisor: Dr. Rahul Singh

University of Iowa

Iowa City, IA, USA

MCS MASTER OF COMPUTER SCIENCE

2022 - 2025

- Human Brain Research Lab Advisor: Dr. Jeremy Greenlee
- Matthew Hoffman Lab Advisor: Dr. Matthew Hoffman
- Academic Advisor: Dr. Kasturi Varadarajan

University of Utah

Salt Lake City, UT, USA

BS COMPUTER SCIENCE

2012 - 2017

- Minors in Mathematics
- Data Track

Professional Experience

- 2021-2022 **Co-founder & CTO – Underwater Image Processing Company**, DiveFlash
- 2020 **Java Software Developer – Freelancer**, ICanManagement
- 2020 **System Integration Coordinator – Freelancer**, Xandar Kardan
- 2018-2019 **Assistant Research Engineer – Developed Battle Stimulator for the South Korean Navy**, EnDCS
- 2017-2018 **Corporal – Army Communication Systems Operator**, Republic of Korea Army

Teaching Experience _____

Spring 2025 **CS2230 – Data Structures**, Teaching Assistant, University of Iowa
Fall 2024 **CS4980 – Adversarial Machine Learning**, Teaching Assistant, University of Iowa
Spring 2017 **CS2100 – Discrete Structures**, Teaching Assistant, University of Utah
Fall 2016 **CS1410 – Intro. to Object Oriented Programming**, Teaching Assistant, University of Utah
Spring 2016 **CS1030 – Foundations of Computer Science**, Teaching Assistant, University of Utah

Publications _____

PUBLISHED

Eric Vallin, Brian Mostaert, Emma Thayer, **Hyunjin Cho**, Matthew Hoffman, Martin Cassell, Douglas Van Daele . 2025. FOXP2 expression in the rodent, rhesus monkey, and human brainstem. Journal of Speech, Language, and Hearing Research

PRE-PRINT

Hyunjin Cho, Farhad Tabasi, Jeremy Greenlee, Rahul Singh. 2025. GVPT: A software for guided visual pitch tracking. arXiv. <https://arxiv.org/abs/2505.00750>

SUBMITTED

Hyunjin Cho, Rahul Singh. Organoid Segmentation Using Phase Congruency and Persistent Homology. ISVC 2025

IN WRITING

Hyunjin Cho, Farhad Tabasi, Jeremy Greenlee, Rahul Singh. APT – The Auditory Pitch Tracking Application

Posters _____

Farhad Tabasi, Roozbeh Behroozmand, **Hyunjin Cho**, Christopher K. Kovach, Christopher I. Petkov, Matthew A. Howard III, and Jeremy D. Greenlee. 2024. Defining the Human Neural Network for Vocal Production and Control. 10th Annual BRAIN Initiative Conference

Miscellaneous _____

AWARDS

2022 **Intelligent Systems in Geoscience Award**, 2022 U Iowa Hack-a-thon

OUTREACH

2023-2024 **University of Iowa**, iPeer Mentorship Program Mentor

2023 **Iowa State Fair**, Graduate Research Ambassador

OTHER PROFESSIONAL EXPERIENCE

2021 **PADI**, Scuba Divemaster