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, C++, Python, C#

University of Iowa – Department of Otolaryngology   *Iowa City, IA, USA*
ADVISOR: DR. MATTHEW HOFFMAN   *2022 - Present*
- UIowa 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*
- Minor 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 Kardian
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

ACCEPTED

Hyunjin Cho, Rahul Singh. 2025. Organoid Segmentation Using Phase Congruency and Persistent Homology. International Symposium on Visual Computing

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

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 UIowa 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