

Hyuksoon Chang

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Education

M.S.	Pohang University of Science and Technology	Aug 2023 – Present
	Computer Science and Engineering (advised by Kyunghmin Bae)	
B.S.	Chungbuk National University	Mar 2019 – Mar 2023
	Computer Engineering (advised by Kyuri Jo)	

Publications

Model Checking of WebAssembly Software Using Maude	2025
Hyuksoon Chang , Kyungmin Bae. Korea Computer Congress(2025) 🔗	
Robustness Analysis of Convolutional Neural Networks for Circle Image Classification by Explainable Artificial Intelligence	2021
Jungho Park* , Hyuksoon Chang* , Kyuri Jo. Korea Computer Congress(2021) 🔗	
Inferring transcriptomic cell states and transitions from time series transcriptome data	2021
Jo K, Sung IY, Lee D, Jang H, Kim S. . Scientific Reports(2021) 🔗	

Projects & Experience

Model Checking of WebAssembly Software with WASM-DSL	2024 - Present
<ul style="list-style-type: none">Developing a model-checking framework for WebAssembly software to verify distributed-system propertiesImplemented the official WebAssembly specification in the Maude rewriting-logic framework to execute Wasm modules and perform LTL-based model checking.Designed compilation rules that translate the WASM-DSL language into Maude rewrite theories, ensuring automatic conformance with the WebAssembly specification.	
BML Lab: Relation prediction of Disease and Transcriptome using LRP method	2020 - 2021
<ul style="list-style-type: none">Participated in the Bioinformatics and Machine Learning Lab as an undergraduate researcher and founding memberDeveloped a disease-transcriptome prediction model using PyTorch, integrating Layer-wise Relevance Propagation (LRP) to interpret model decisions. Optimized computational efficiency for experimental data processing	
MimicStudio: Web service that automatically generates 3D product models	2022
<ul style="list-style-type: none">Led the team and implemented the neural-rendering server with Instant-NGPImplemented an upscaling algorithm to improve the resolution of 3D videos	
Cirkadian: Healthcare devices based on circadian rhythm	2022.04 - 2022.07
<ul style="list-style-type: none">Developed a cross-platform mobile application using Flutter to interface with circadian illuminometers (light sensors) and control circadian lamps remotelyImproved application stability and user experience (UI/UX) by resolving bugs and implementing iterative design improvements	
COSMIC: AI-Driven Web Projects Club	2020 - 2022
<ul style="list-style-type: none">Founded and led the club; built web projects including an AI-based security-camera service and an undergraduate course-recommendation platform	

- Designed and supervised several instructional toy projects to teach web frameworks such as React, FastAPI and Django

TEACHING

CSED415: Computer Security (TA)	↗	2025 Spring
5110160: Machine Learning (TA)		2021 Fall
0622014: Applied Computer Programming (TA)		2020 Fall, 2021 Fall
0914002: Fundamental Computer Programming (TA)		2021 Spring, 2022 Spring

AWARDS & FUNDING

Master's Research Fellowship — National Research Foundation of Korea	2024–2025
Lotte Scholarship	2020–2023
Daeshin Freight Scholarship	2020–2023
Software Maestro Program Grant, 13th Cohort — Ministry of Science and ICT	2022
Excellence Scholarship — Software-Centered University Program, CBNU	2020–2022