

Hyuksoon Chang

📍 Pohang, Korea ✉ hyuksoon@postech.ac.kr

Education

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

Publications

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

Projects & Experience

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| Model Checking of WebAssembly Software with WASM-DSL <ul style="list-style-type: none"> Developing a model-checking framework for WebAssembly software to verify distributed-system properties Implemented 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. | 2024 - Present |
| BML Lab: Relation prediction of Disease and Transcriptome using LRP method <ul style="list-style-type: none"> Participated in the Bioinformatics and Machine Learning Lab as an undergraduate researcher and founding member Developed a disease-transcriptome prediction model using PyTorch, integrating Layer-wise Relevance Propagation (LRP) to interpret model decisions. Optimized computational efficiency for experimental data processing | 2020 - 2021 |
| MimicStudio: Web service that automatically generates 3D product models <ul style="list-style-type: none"> Led the team and implemented the neural-rendering server with Instant-NGP Implemented an upscaling algorithm to improve the resolution of 3D videos | 2022 |
| Cirkadian: Healthcare devices based on circadian rhythm <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 remotely Improved application stability and user experience (UI/UX) by resolving bugs and implementing iterative design improvements | 2022.04 - 2022.07 |
| COSMIC: AI-Driven Web Projects Club <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 | 2020 - 2022 |

- 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