

HOJUN CHOI

AI Researcher, KIM JAECHUL GRADUATE SCHOOL OF ARTIFICIAL INTELLIGENCE, KAIST

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Research Interests

Computer Vision

Machine Learning

Model Compression

LLMs

Tech Stack

Programming Languages

Python | C | R | SQL

Frameworks

PyTorch | TensorFlow

Education

The Kim Jaechul Graduate School of AI at Korea Advanced Institute of Science and Technology

Madison, WI

M.S IN ARTIFICIAL INTELLIGENCE

Jan. 2024 - May. 2025

• GPA: N/A

University of Wisconsin-Madison

Madison, WI

B.S IN COMPUTER SCIENCE AND DATA SCIENCE

Sep. 2020 - Dec. 2022

• GPA: 3.9/4.0

Publication

CONFERENCES

- C1 S. Park, **H. Choi**, and U Kang. "Knowledge-preserving Pruning for Pre-trained Language Models without Retraining," The International Conference on Learning Representations (**ICLR**) 2024 Submission, May 2023.
- C2 S. Lee, **H. Choi**, J Choi, S Oh, S Ko, and I Shin. "Explore, Select, Derive, and Recall: Augmenting LLM with Human-like Memory for Mobile Task Automation," The International Conference on Mobile Systems, Applications, and Services (**MobiSys**) 2024 Submission, Dec 2023.

Honors and Awards

2022	Top 10% in Predicting Autonomous Sensor Antenna Performance, LG Research AI Hackathon	South Korea
2022	Nominated for Developing User-friendly Online History Search Chrome Extension, Hatathon	Madison, WI
2022	Dean's List for All Semesters Attended in Recognition of Exceptional Academic Excellence	Madison, WI
2017	Dean's List for All Semesters Attended in Recognition of Exceptional Academic Excellence	Albany, NY

Professional Experience

FLUIZ

Seoul, South Korea

AI Intern Researcher, Advisor: Prof. Insik Shin

Sep. 2023 - Dec. 2023

- Collected data for UI Captioning and encoded visual contextual information among UI elements based on the mobile app page hierarchy structure.
- Implemented and integrated LLM technology in multi-device applications on Android Studio.
- Research Assistant in KT AI Convergence Education Program at KAIST.
 - Assisted in developing a network for leveraging Vector DBMS and LangChain-powered applications.
 - Assisted in building an architecture for an image-resizing application based on LLM and Diffusion Model.

Seoul National University

Seoul, South Korea

AI Researcher, Advisor: Prof. U Kang

Jan. 2023 - July. 2023

- Specialized in AI model compression and reinforcement learning through quantization research.
- Contributed to a survey paper on lightweight Transformer models using diverse quantization techniques.
- Co-authored a paper on model pruning for ICLR2024 Submission by evaluating comparable models and aiding with English translations.

University of Wisconsin-Madison

Madison, WI

Undergraduate AI Research Intern, Advisor: Prof. Ran

Sep. 2022 - Dec. 2022

- Simulated CADS operational life cycle and tested new models in a custom CARLA environment.
- Validated collaborative automated driving algorithms with DETR.

University of Wisconsin-Madison

Madison, WI

Academic Mentor, Employer: Maisie Her

Sep. 2021 - Dec. 2022

- Actively engaged in serving the UW community and dedicated to developing intercultural leadership and communication skills.
- Diligently mentored my mentees through academic counseling, resource sharing, and a sincere dedication to their success.
- Enhanced proficiency in crucial AI domains including Linear Algebra, Artificial Intelligence, Human-Computer Interaction, and C Programming.

Projects

Object Detection for Autonomous Driving using DETection TRansformer

Madison, WI

Implemented end-to-end detection techniques for large objects in the CARLA environment.

Sep. 2022 - Dec. 2022

CARLA Research Team Project

Madison, WI

Developed a comprehensive workflow for the Sensing-Perception Group CADS System using the CARLA simulator.

Sep. 2022 - Dec. 2022

Database Development

Madison, WI

Understood core techniques of DBMS and constructed a database structure for real-world problems using MySQL.

Sep. 2022 - Dec. 2022

Visitory

Madison, WI

Developed a user-friendly interactive internet history search Chrome extension.

Jan. 2022 - May. 2022

Operating Systems

Madison, WI

Explored MapReduce, memory encryption, file systems, lottery scheduler, shell, and xv6 kernel threads.

Jan. 2022 - May. 2022

Data Modeling with Python & R

Madison, WI

Explored data visualization, version control, A/B testing, classification, clustering, optimization, simulation techniques, and more.

Jan. 2022 - May. 2022

Human-Computer Interaction Report Papers

Madison, WI

Explored IT support interactions at LTG helpdesk, Memorial Library. Various methods used. Details in processbook.

Sep. 2021 - Dec. 2021

Cardiovascular Disease Risk Factor Analysis

Madison, WI

Examined causal relationships among variables using statistical models and visualized results through graphs in R.

Sep. 2021 - Dec. 2021

COVID-19 Self-Checker

Madison, WI

Developed a simple self-diagnostic analysis CPP software for COVID-19 symptoms.

Jan. 2021 - May. 2021

A Free Website for Short-Term Memory Testing

Madison, WI

Implemented a multi-threaded timer in the back end and enabled parsed data transfer among pages through RestAPI.

Sep. 2020 - Dec. 2022

Time Clock System

South Korea

Designed C# Windows software for employee attendance tracking, utilizing a MYSQL-based database with SQL.

Jan. 2019 - May. 2019

Unity Games Development

South Korea

Created game architectures and optimized graphics performance by batching game objects within the hierarchy.

May. 2018 - Aug. 2018

Automation System Development

South Korea

Analyzed data assignment patterns by component in the company's platform and developed software for multilingual tasks.

Feb. 2018 - May. 2018

Teaching

RESEARCH ASSISTANT, HYBRID, SEPTEMBER 2023 – DECEMBER 2023

Fall 2023

KT-AI Convergence Education Program, Research Assistant

PRIVATE TUTOR, REMOTE, OCTOBER 2022 – PRESENT

Fall 2023

English Speaking Tutoring, Advanced-level

Fall 2023

Mathematical Statistics with Applications, graduate-level

Fall 2023	Linear Algebra, undergraduate-level
Summer 2023	Mathematical Statistics with Applications, graduate-level
Spring 2023	Mathematical Statistics with Applications, graduate-level
Spring 2023	English Speaking Tutoring, Intermediate-level
Fall 2022	Linear Algebra, undergraduate-level

ACADEMIC MENTOR, UW-MADISON, MADISON, WI, SEPTEMBER 2021 – DECEMBER 2022

Fall 2022	Introduction to Human Computer Interactions (CS570), undergraduate-level
Fall 2022	Introduction to Artificial Intelligence (CS540), undergraduate-level
Spring 2022	Elementary Matrix and Linear Algebra (CS340), undergraduate-level
Spring 2022	Introduction to Computer Systems (CS354), undergraduate-level
Spring 2022	Programming III (CS400), undergraduate-level
Fall 2021	Elementary Matrix and Linear Algebra (CS340), undergraduate-level
Fall 2021	Introduction to Computer Engineering (CS252), undergraduate-level

Professional Activities

COMMUNITY SERVICE

English Translation, NAVER Knowledge iN

Online Freelance English Translation Expert

Remote

May. 2022 - Present

CERTIFICATIONS

NLP Development Program, Seoul ICT Innovation Square

Trainee

Remote

July. 2022 - Sep. 2022

Machine Learning A-Z: Hands-on Python And R, Udemy

Trainee

Remote

Aug. 2022 - Aug. 2022

Machine Learning Practical Development: 8 Practical Projects, Udemy

Trainee

Remote

Aug. 2022 - Aug. 2022

LG Aimers, LG AI Research

Trainee

Remote

July. 2022 - Aug. 2022

AI Engineering Program, Seongnam Industry

Trainee

Remote

July. 2022 - Aug. 2022

Intensive English Language Program (IELP), University at Albany-SUNY

Trainee

Albany, NY

ORGANIZATIONS

CAVH Graduate Student Research Group, University of Wisconsin-Madison

Member

Madison, WI

Computer Science Undergraduate Research Group, University of Wisconsin-Madison

Member

Madison, WI

Student Software Development Club, University of Wisconsin-Madison

Member

Madison, WI

References

References are provided upon request.