HOJUN **CHOI**

AI Researcher, OPEN TO WORK

40, Geumgwang-ro, Jungwon-gu, Seongnam-si, Gyeonggi-do, South Korea

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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   *Mar. 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.

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

The Korea Advanced Institute of Science and Technology (KAIST)   *Seoul, South Korea*

AI 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.*
  o *Assisted in developing a network for leveraging Vector DBMS and LangChain-powered applications.*
  o *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: Maisee 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   *Remote*

Online Freelance English Translation Expert

May. 2022 - Present

CERTIFICATIONS

NLP Development Program, Seoul ICT Innovation Square   *Remote*

Trainee   *July. 2022 - Sep. 2022*

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

Trainee   *Aug. 2022 - Aug. 2022*

Machine Learning Practical Development: 8 Practical Projects, Udemy   *Remote*

Trainee   *Aug. 2022 - Aug. 2022*

LG Aimers, LG AI Research   *Remote*

Trainee   *July. 2022 - Aug. 2022*

AI Engineering Program, Seongnam Industry   *Remote*

Trainee   *July. 2022 - Aug. 2022*

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

Trainee

ORGANIZATIONS

CAVH Graduate Student Research Group, University of Wisconsin-Madison   *Madison, WI*

Member

Computer Science Undergraduate Research Group, University of Wisconsin-Madison   *Madison, WI*

Member

Student Software Development Club, University of Wisconsin-Madison   *Madison, WI*

Member

References

References are provided upon request.