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," Neural Information Processing Systems (**NeurIPS**) 2023 Conference 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 Research Intern, Advisor: Prof. Insik Shin *Sep. 2023 - Present*

- *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.*

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 NeurIPS2023 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

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.