

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

3D Vision

Object Detection

Model Compression

Tech Stack

Programming Languages

Python | C | R | SQL

Frameworks

PyTorch | TensorFlow

Education

University of Wisconsin-Madison

Madison, WI

B.S IN COMPUTER SCIENCE AND DATA SCIENCE

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

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| 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

Seoul National University

Seoul, South Korea

AI Researcher, Advisor: Prof. U Kang

Jan. 2023 - July. 2023

- Specialized in AI model compression through quantization research.
- Contributed to a survey paper on lightweighting Transformer models using diverse quantization techniques.
- Co-authored a NeurIPS paper on model pruning, evaluating competing 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 in CARLA environment.
- Validated collaborative automated driving algorithms with DETR.
- Developed and tested new models in custom CARLA environment.

University of Wisconsin-Madison

Madison, WI

Academic Mentor, Employer: Maisee Her

Sep. 2021 - Dec. 2022

- 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

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

Madison, WI

Sep. 2022 - Dec. 2022

CARLA Research Team Project

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

Madison, WI

Sep. 2022 - Dec. 2022

Database Development

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

Madison, WI

Sep. 2022 - Dec. 2022

Visitory

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

Madison, WI

Jan. 2022 - May. 2022

Operating Systems

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

Madison, WI

Jan. 2022 - May. 2022

Data Modeling with Python & R

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

Madison, WI

Jan. 2022 - May. 2022

Human-Computer Interaction Report Papers

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

Madison, WI

Sep. 2021 - Dec. 2021

Cardiovascular Disease Risk Factor Analysis

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

Madison, WI

Sep. 2021 - Dec. 2021

COVID-19 Self-Checker

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

Madison, WI

Jan. 2021 - May. 2021

A Free Website for Short-Term Memory Testing

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

Madison, WI

Sep. 2020 - Dec. 2022

Time Clock System

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

South Korea

Jan. 2019 - May. 2019

Unity Games Development

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

South Korea

May. 2018 - Aug. 2018

Automation System Development

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

South Korea

Feb. 2018 - May. 2018

Teaching

PRIVATE TUTOR, REMOTE, OCTOBER 2022 – PRESENT

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|-------------|---|
| 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

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|-------------|--|
| 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

JULY 25, 2023

Seoul, South Korea

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.