

Hojun (Eric) Choi

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RESEARCH INTERESTS

Computer Vision • Robotics • Hyper-scale AI • Software Development

SKILLS

PROGRAMMING LANGUAGES

- Python, C, C++, SQL, R

FRAMEWORKS

- PyTorch, TensorFlow
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EDUCATION

University of Wisconsin, Madison

B.S. in Computer Science and Data Science

| Dec 2022

Advisor | [Dr. Michael Radloff](#) and [Dr. Sara Rodock](#)

HONORS AND AWARDS

2022 LG Research Hackathon

| 2022

Ranked top 10% on hackathon with the topic of predicting the antenna performance of autonomous sensors

2022 Hatathon Nomination, Undergraduate Research Lab (UPL)

| 2022

Built a human-friendly interactable internet history search chrome extension

Dean's List, All semesters in attendance

| 2017-2022

The highest level of academic achievement

PUBLICATIONS

Conference Papers

..... 2023

[P1] Seungcheol Park, Hojun Choi, U Kang, "Knowledge-preserving Pruning for Pre-trained Language Models without Retraining", NeurIPS 2023 Conference Submission, May 2023.

PROFESSIONAL EXPERIENCE

SEOUL NATIONAL UNIVERSITY | AI RESEARCHER

2023 | SEOUL, SOUTH KOREA

MENTOR: [Prof. U. Kang](#)

- Specialized in quantization research for AI model compression and contributed to a survey paper on lightweighting Transformer models using various quantization techniques.
- Co-authored a paper on model pruning for NeurIPS, assessed competing models, and assisted with English translations.

UNIVERSITY OF WISCONSIN – MADISON | UNDERGRAD. AI RESEARCHER

2022-Currnet | MADISON, WISCONSIN

MENTOR: [Prof. Ran](#)

- Simulated the operational life cycle of the CADs in the CARLA environment.
- Validated the developed algorithms of collaborative automated driving.
- Developed and test new models in the customized environment and the CARLA environment.

UNIVERSITY OF WISCONSIN – MADISON | ACADEMIC MENTOR

2021-Current | MADISON, WISCONSIN

EMPLOYER: [Masiee Her](#)

- Dedicatedly guided my mentee through academic counseling, resource sharing, and a genuine commitment to their success.
- Sharpened my proficiency in key AI domains such as Linear Algebra, Artificial Intelligence, Human-Computer Interaction, and C Programming.

MAPAL HITECO, INC. | PRODUCTION TEAM & SW DEVELOPER INTERN

2018-2020 | SIHEUNG-SI, SOUTH KOERA

- Designed and implemented automated data mapping tools for ERP platform with multi-language contents.
- Provided maintenance services on the company's website and ERP platform.
- Developed time clock systems to check employees' attendance.

PROJECTS

[Object Detection for Autonomous Driving using DEtection TRansformer](#) | 2022

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

[Database Development](#) | 2022

Understanding of core techniques of DBMS & Building a database structure on real-world problems using MySQL.

[CARLA Research Team Project](#) | 2022

Built a complete workflow of Sensing-Perception Group CADs System using CARLA simulator.

[AI Software and Applications](#) | 2022

A full list of my AI projects (may need to be updated).

[Visitory – Hatathon](#) | 2022

Built a human-friendly interactable internet history search chrome extension.

[Introduction to Operating Systems](#) | 2022

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

[Data Modelings with Python & R](#) | 2022

Data visualization, version control, A/B testing, classification, clustering, optimization, simulation techniques, etc.

[Human-Computer Interaction Report Papers](#) | 2021

Investigated the problem domain of three different settings.

[Cardiovascular Disease Risk Factor Analysis](#) | 2021

Analyzed causal relationships among actors using statistical models & visualized the results through graphs in R.

[COVID-19 Self-Checker](#) | 2021

A simple self-diagnostic analysis software for COVID-19 symptoms.

[A Free Website for Short-Term Memory Testing](#) | 2020

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

Time Clock System | 2019

A window software for employee' attendance tracker.

[Unity Games Developments](#) | 2018

Designed game architectures and optimized graphics performance by batching game objects with hierarchy.

Automation System Development | 2018

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

TEACHING EXPERIENCE

- **Private Tutoring**

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|------------|-------------------------------------|
| Course | Linear Algebra |
| Instructor | Hojun (Eric) Choi |
| Location | Remote (Kimstudy) |
| Period | 2022-current |

- **Academic Mentor**

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|------------|--|
| Course | Introduction to Human Computer Interactions (CS 570) |
| Instructor | Prof. Jacob Thebault-Spieker |
| Location | University of Wisconsin, Madison |
| Semester | Fall 2022 |

- **Academic Mentor**

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|------------|--|
| Course | Introduction to Artificial Intelligence (CS 540) |
| Instructor | Prof. Jerry Zhu |
| Location | University of Wisconsin, Madison |
| Semester | Fall 2022 |

- **Academic Mentor**

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|------------|---|
| Course | Elementary Matrix and Linear Algebra (MATH 340) |
| Instructor | Prof. Alexander Hanhart |
| Location | University of Wisconsin, Madison |
| Semester | Fall 2021, Spring 2022 |

- **Academic Mentor**

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|------------|---|
| Course | Introduction to Computer Systems (CS 354) |
| Instructor | Prof. Michael Doescher |
| Location | University of Wisconsin, Madison |
| Semester | Spring 2022 |

- **Academic Mentor**

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|------------|----------------------------------|
| Course | Programming III (CS 400) |
| Instructor | Prof. Gary Dahl |
| Location | University of Wisconsin, Madison |
| Semester | Spring 2022 |

- **Academic Mentor**

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|------------|---|
| Course | Introduction to Computer Engineering (CS 252) |
| Instructor | Prof. James Skrentny |
| Location | University of Wisconsin, Madison |
| Semester | Fall 2021 |

MENTORED STUDENTS

- Sharmin Akter Chowdhury | 2021-2022

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|--------------|----------------------------------|
| Institution | University of Wisconsin, Madison |
| Degree Level | Undergraduate |
| Major | Computer Science |
- Jeremiah Dominick Lipscomb | 2022

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| Institution | University of Wisconsin, Madison |
| Degree Level | Undergraduate |
| Major | Computer Science |
- Isaac Odeyoin | 2021

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|--------------|----------------------------------|
| Institution | University of Wisconsin, Madison |
| Degree Level | Undergraduate |
| Major | Computer Science |

PROFESSIONAL ACTIVITIES

CONFERENCE REVIEWS

ICLR, NeurIPS, CVPR, arXiv, ICPR, AAAI, etc.

| 2021-current

ONLINE FREELANCE ENGLISH TRANSLATION EXPERT, NAVER KNOWLEDGE IN

- Equipped with professional Korean-to-English translation expertise

| 2016-current

LG TECHNICAL CERTIFICATE PROGRAM IN MACHINE LEARNING, LG RESEARCH

- Absorbed the state-of-the-art AI technology of autonomous driving and radar sensors

| 2022

NLP CERTIFICATION PROGRAM, SEOUL ICT INNOVATION SQUARE

- Equipped with core knowledge and expertise in the in-demand field of NLP

| 2022

AI ENGINEERING PROFESSIONAL CERTIFICATE, ABLEARN AND SEONGNAM INDUSTRY

- Online Certified AI ENGINEERING Certification Training

| 2022

CERTIFICATE OF COMPLETION: MACHINE LEARNING A-Z: HANDS-ON PYTHON AND R

- Learned to create ML algorithms in Python and R from two Data Science experts

| 2022

CERTIFICATE OF COMPLETION: INTENSIVE ENGLISH LANGUAGE PROGRAM

- Completed the IELP with the highest level at the University at Albany - SUNY

| 2016

ORGANIZATION

CAVH GROUP, UW-MADISON

- Graduate Student Research Group in the Depart. of Civil and Environmental Engineering

| 2022

ARTIFICIAL INTELLIGENCE CLUB, UW-MADISON

- A project-based organization committed to bringing together students with an interest in AI

| 2022

UNIVERSITY WISCONSIN UNDERGRADUATE PROJECT LAB

- UW Madison Computer Science Undergraduate Research Membership

| 2022

STUDENT SOFTWARE DEVELOPMENT CLUB

- UW Madison Student Software Development Membership

| 2021