

# Hojun (Eric) Choi

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## RESEARCH INTERESTS

Computer Vision • 3D Vision • Object Detection/Tracking • Hyper-scale AI

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## 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](#)

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## 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

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## 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.

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## PROFESSIONAL EXPERIENCE

### SEOUL NATIONAL UNIVERSITY | AI RESEARCH Intern

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.
- Submitted a paper as a second author on model pruning for NeurIPS, assessing competing models and assisting with English translations.

### UNIVERSITY OF WISCONSIN – MADISON | UNDERGRAD. AI RESEARCH Intern

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 using DETR.
- Developed and test new models in the customized 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.

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## 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 tasks.

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## TEACHING EXPERIENCE

- **Private Tutoring**

Course | Linear Algebra  
Instructor | [Hojun \(Eric\) Choi](#)

Location | Remote ([Kimstudy](#))  
Period | 2022-current

#### **Academic Mentor**

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

- **Academic Mentor**

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

- **Academic Mentor**

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

- **Academic Mentor**

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

- **Academic Mentor**

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

- **Academic Mentor**

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

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## MENTORED STUDENTS

- Sharmin Akter Chowdhury | 2021-2022  
Institution | University of Wisconsin, Madison  
Degree Level | Undergraduate  
Major | Computer Science
- Jeremiah Dominick Lipscomb | 2022  
Institution | University of Wisconsin, Madison  
Degree Level | Undergraduate  
Major | Computer Science
- Isaac Odeyoin | 2021  
Institution | University of Wisconsin, Madison  
Degree Level | Undergraduate  
Major | Computer Science

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## 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

<b>LG TECHNICAL CERTIFICATE PROGRAM IN MACHINE LEARNING, LG RESEARCH</b>	
▪ Absorbed the state-of-the-art AI technology of autonomous driving and radar sensors	2022
<b>NLP CERTIFICATION PROGRAM, SEOUL ICT INNOVATION SQUARE</b>	
▪ Equipped with core knowledge and expertise in the in-demand field of NLP	2022
<b>AI ENGINEERING PROFESSIONAL CERTIFICATE, ABLEARN AND SEONGNAM INDUSTRY</b>	
▪ Online Certified AI ENGINEERING Certification Training	2022
<b>CERTIFICATE OF COMPLETION: MACHINE LEARNING A-Z: HANDS-ON PYTHON AND R</b>	
▪ Learned to create ML algorithms in Python and R from two Data Science experts	2022
<b>CERTIFICATE OF COMPLETION: INTENSIVE ENGLISH LANGUAGE PROGRAM</b>	
▪ Completed the IELP with the highest level at the University at Albany - SUNY	2016

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## ORGANIZATION

<b>CAVH GROUP, UW-MADISON</b>	
▪ Graduate Student Research Group in the Depart. of Civil and Environmental Engineering	2022
<b>ARTIFICIAL INTELLIGENCE CLUB, UW-MADISON</b>	
▪ A project-based organization committed to bringing together students with an interest in AI	2022
<b>UNIVERSITY WISCONSIN UNDERGRADUATE PROJECT LAB</b>	
▪ UW Madison Computer Science Undergraduate Research Membership	2022
<b>STUDENT SOFTWARE DEVELOPMENT CLUB</b>	
▪ UW Madison Student Software Development Membership	2021