Hojun (Eric) Choi

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RESEARCH INTERESTS

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

SKILLS

PROGRAMMING LANGUAGES
- Python, C, C++, SQL, R

FRAMEWORKS
- PyTorch, TensorFlow

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 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.
- 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
Undertanding of core techniques of DBMS & Building a databse 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.

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

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 Odeoyin | 2021
  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