

TAEWOON KIM


AI Researcher & Engineer



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 tae898

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SUMMARY

I love diving into AI stuff! I'm both a researcher and engineer in the AI world. It's like finding the sweet spot between brainstorming new ideas and making them actually work in real life. I believe figuring out and improving artificial general intelligence is super important for all of us. I'm all about open-sourcing projects because it's the best way to make AI better together.

SKILLS AND INTERESTS

Research: Artificial General Intelligence

Languages: Python, C++, C, Java, JavaScript, Shell Script, HTML, CSS

Frameworks /Libraries: Pytorch, TensorFlow, OpenCV, NumPy, SciPy, Flask, Jupyter Notebooks

Platforms: Docker, Linux, GCP, AWS

PROJECTS

AI	Large Language Models I was involved in training some large language models with the Transformers.	https://taewoon.kim/projects/llm
AI	Computer Vision Some projects to allow the machines to see the world with their eyes.	https://taewoon.kim/projects/computer-vision
AI	A Machine With Human-Like Memory Systems A machine with a symbolic memory system (knowledge graph) trained with reinforcement learning.	https://taewoon.kim/projects/human-memory
Software development	Tracking Glass Bottles With Letter in the Sea QR-code based tracking. Anyone can participate in this project!	https://taewoon.kim/projects/glass-track

EDUCATION

Sep/2020 - Dec/2024	PhD. Artificial Intelligence, Vrije Universiteit Amsterdam, Netherlands <ul style="list-style-type: none">• Titled "A Machine With Human-Like Memory Systems". This machine is equipped with an external memory system, modeled with a knowledge graph, and uses reinforcement learning to learn essential human skills, such as managing memory, reasoning, exploring, etc.• Supervised by Michael Cochez, Vincent François-Lavet, and Frank van Harmelen
Oct/2015 - Sep/2018	M.Sc. Computer Science, Hamburg University of Technology, Germany <ul style="list-style-type: none">• Focused on deep learning and computer vision.• Wrote M.Sc. thesis "One Shot Learning for Object Recognition in Pick and Insert Applications" in collaboration with ABB and supervised by Alexander Schlaefer
Mar/2008 - Aug/2015	B.Sc. Electrical Engineering, Yonsei University, South Korea <ul style="list-style-type: none">• Focused on digital signal processing and computer vision.• Wrote B.Sc. thesis "Obstacle detection for the blind in C++ with OpenCV", supervised by Kwanghoon Sohn• The lengthened period of study includes 2 years of mandatory social service.

EXPERIENCE

Sep/2020 - Dec/2024	Scientific Researcher, Learning and Reasoning, Group Vrije Universiteit Amsterdam, Netherlands <ul style="list-style-type: none">• Part of the PhD program.• Carried out research in AI encompassing NLP, Computer Vision, Reinforcement Learning, Knowledge Graphs, etc., most of which can be found on my GitHub and Google Scholar.• Taught computer programming courses, e.g., Python, and AI courses, e.g., board games with search algorithms and machine learning.• Supervised B.Sc. and M.Sc. theses.
Jan/2023 - Dec/2023	Visiting Researcher, Interactive Intelligence Group, Technische Universiteit Delft, Netherlands <ul style="list-style-type: none">• Carried out research in AI, especially co-learning, where machines and humans learn to collaborate with each other.• Supervised by Mark Neerincx.

Nov/2018
- Sep/2020

Computer Vision Engineer, Nect, Germany

- Worked with machine learning (mostly deep learning) to improve ID card and self verification processes.
- Mostly dealt with speech, image, and video data.
- Working at a start-up has enabled me to work closely with DevOps and Front-end developers and to better understand the big picture of AI companies.

Jan/2018
- Sep/2018

Intern and M.Sc. Thesis Student, ABB, Germany

- Applied robot vision with a RGBD camera.
- Trained computer vision deep learning models, e.g., ResNet, to extract features relevant for robotic pick and place skills.
- Used both RobotStudio and Robot Web Services based on RESTful APIs to interact with both virtual and real robot controllers.

Jul/2014
- Sep/2014

B.Sc. Intern, Brain Signal Processing Lab, Korea University, South Korea

- Learned mathematical and computer skills to process and visualize brain signals.
- Supervised by Jong-Hwan Lee