


# TAEWOON KIM

AI Researcher & Engineer



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

## EDUCATION

- Sep/2020 - Dec/2024 **PhD. Artificial Intelligence, Vrije Universiteit Amsterdam, Netherlands**
  - 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
  - Funded by the Hybrid Intelligence Center.
- Oct/2015 - Sep/2018 **M.Sc. Computer Science, Hamburg University of Technology, Germany**
  - 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**
  - 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**
  - 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**
  - 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