

# TAEWOON KIM

AI Researcher & Engineer



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## SUMMARY

I imagine a future where machines and humans coexist. I'm generally interested in technology and science that can help us get there. I'm currently working on HumemAI (A Machine With Human-Like Memory Systems) that use both symbolic and sub-symbolic AI techniques to build a machine that can learn and reason like humans.

I offer B2B services, including full stack AI / ML model building and consulting.

## 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

## EXPERIENCE

- |                        |   |  |
|------------------------|---|--|
| Apr/2024<br>- Current  | <b>Founder</b><br>• The brain of the HumemAI agent, inspired by the cognitive science theories, is modeled with a knowledge graph, unlike other AI agents. This provides the agent with human-like memory systems, improving human and machine communication.   | <b>HumemAI, Amsterdam, Netherlands</b>   |
| Sep/2020<br>- Dec/2024 | <b>Scientific Researcher</b><br>• Carried out research in AI encompassing NLP, Computer Vision, Reinforcement Learning, Knowledge Graphs, etc.<br>• Taught and supervised B.Sc. and M.Sc. students on their courses and theses, e.g., Python, AI courses, board games with search algorithms, machine learning, etc.  | <b>Learning and Reasoning Group, Vrije Universiteit Amsterdam, Netherlands</b> |
| Nov/2018<br>- Sep/2020 | <b>Computer Vision Engineer</b><br>• Worked with machine learning (mostly deep learning) to improve ID card and self verification processes.<br>• Mostly dealt with speech, image, and video data.<br>• 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. | <b>Nect, Germany</b>   |
| Jan/2018<br>- Sep/2018 | <b>Intern and M.Sc. Thesis Student</b><br>• Applied robot vision with a RGBD camera.<br>• Trained computer vision deep learning models, e.g., ResNet, to extract features relevant for robotic pick and place skills.<br>• Used both RobotStudio and Robot Web Services based on RESTful APIs to interact with both virtual and real robot controllers.     | <b>ABB, Germany</b>  |
| Jul/2014<br>- Sep/2014 | <b>B.Sc. Intern</b><br>• Learned mathematical and computer skills to process and visualize brain signals.<br>• Supervised by Jong-Hwan Lee  | <b>Brain Signal Processing Lab, Korea University, South Korea</b>              |

## EDUCATION

- |                        |   |
|------------------------|---|
| Sep/2020<br>- Dec/2024 | <b>PhD. Artificial Intelligence, Vrije Universiteit Amsterdam, Netherlands</b><br>• Titled " <i>A Machine With Human-Like Memory Systems</i> ". 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.<br>• Supervised by Michael Cochez, Vincent François-Lavet, and Frank van Harmelen |
| Oct/2015<br>- Sep/2018 | <b>M.Sc. Computer Science, Hamburg University of Technology, Germany</b><br>• Focused on deep learning and computer vision.<br>• Wrote M.Sc. thesis " <i>One Shot Learning for Object Recognition in Pick and Insert Applications</i> " in collaboration with ABB and supervised by Alexander Schlaefer   |
| Mar/2008<br>- Aug/2015 | <b>B.Sc. Electrical Engineering, Yonsei University, South Korea</b><br>• Focused on digital signal processing and computer vision.<br>• Wrote B.Sc. thesis " <i>Obstacle detection for the blind in C++ with OpenCV</i> ", supervised by Kwanghoon Sohn<br>• The lengthened period of study includes 2 years of mandatory social service.   |