TAEWOON KIM

AI Researcher & Engineer

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SUMMARY

I'm all about making AI work for people, blending the best of research and engineering. From my PhD work, I started HumemAI, where we're doing something cool: making AI think more like us using ideas from cognitive science. It's not just any AI; it's designed to communicate better with humans. My goal? To make AI not just smart, but also easy for everyone to use and benefit from.

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

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

Apr/2024 - Current

Founder — **HumemAI, Amsterdam, Netherlands**

- 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.

Sep/2020 - Dec/2024

Scientific Researcher — **The Hybrid Intelligence Centre, Netherlands**

- Part of the PhD program.
- Carried out AI research in combining human and machine intelligence.

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.
- 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