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. Right now, I'm on the lookout for smart folks and some funding to help grow this idea. 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.
- Currently actively looking for talents and funding.

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