TAEWOON KIM

AI Researcher & Engineer

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SUMMARY

AI researcher and engineer with end-to-end experience across research, productization, and deployment of intelligent systems. My work spans memory-augmented AI, multimodal generative models, reinforcement learning, and knowledge-driven reasoning.

I build AI products for real-world use: agentic workflows, RAG and long-term memory pipelines, model evaluation, and scalable serving integrations with SQL/NoSQL backends and modern app interfaces. I also provide research consulting for teams moving from AI prototypes to production systems.

TECHNICAL SKILLS

AI Systems & LLMs	Agentic AI, RAG & Memory, Multimodal AI, NLP/CV, Reinforcement Learning, Knowledge Graphs
Full-Stack AI Engineering	Python, SQL/NoSQL, Backend APIs, MCP (Model Context Protocol), Tool-Using Agents, Model Evaluation
Product & Deployment	Deep Learning Frameworks, Docker, Cloud Deployment (AWS/GCP/Azure), AI Product Prototyping

EXPERIENCE

Mar/2025 - Oct/2025
Machine Learning Engineer — **Byborg Enterprises, Luxembourg**
- Built multimodal AI companion capabilities for human-like interactions across text, audio, image, and video channels.
- Designed and adapted large generative models for personalization, response quality, and robust multimodal behavior.
- Partnered with product and engineering teams to transition research prototypes into production, real-time user systems.

Apr/2024 - Current
Founder — **HumemAI, Amsterdam, Netherlands**
- Architected a persistent memory layer for AI agents (HumemAI) using hybrid retrieval over SQL and NoSQL stores.
- Developed memory operations (store, retrieve, reason, and update) to improve long-horizon interaction quality.
- Supported B2B AI development from model design to deployment-ready integrations in customer-facing applications.

Sep/2020 - Dec/2024
Scientific Researcher — **Learning and Reasoning Group, Vrije Universiteit Amsterdam, Netherlands**
- Conducted AI research across NLP, computer vision, reinforcement learning, and knowledge-graph-based reasoning.
- Designed and validated learning systems for memory, decision-making, and generalization in complex environments.
- Taught and supervised B.Sc. and M.Sc. students in Python, machine learning, and AI-focused projects.

Nov/2018 - Sep/2020
Computer Vision Engineer — **Nect, Germany**
- Applied machine learning, primarily deep learning, to improve ID verification and selfie verification pipelines.
- Worked with multimodal data including speech, images, and video for identity-related product workflows.
- Collaborated closely with DevOps and front-end teams to integrate computer vision systems into production products.

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**
- Processed and visualized brain-signal data using mathematical and computational methods.
- Supervised by Jong-Hwan Lee

EDUCATION

Sep/2020 - Current

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

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.