MBZUAI and G42 Launch K2 Think: A Leading Open-Source System for Advanced AI Reasoning

K2 Think delivers performance on par with the most advanced reasoning models at a fraction of the size

ABU DHABI, September 9, 2025 – The Institute of Foundation Models at Mohamed bin Zayed University of Artificial Intelligence (MBZUAI) and G42 today announced the launch of K2 Think, a leading open-source system for advanced AI reasoning.

K2 Think embodies a new approach to building smarter, more efficient AI. With just 32 billion parameters, it outperforms flagship reasoning models that are 20X larger. This breakthrough in parameter efficiency makes K2 Think a powerful alternative for advanced reasoning, redefining what is possible with compact architectures.

Built on six pillars of innovation, K2 Think represents a new class of reasoning model. It employs **long chain-of-thought supervised fine-tuning** to strengthen logical depth, followed by **reinforcement learning with verifiable rewards** to sharpen accuracy on hard problems. **Agentic planning** allows the model to decompose complex challenges before reasoning through them, while **test-time scaling** techniques further boost adaptability. In addition, K2 Think will soon be available on Cerebras' wafer-scale, **inference-optimized compute platform**, enabling researchers and innovators worldwide to push the boundaries of reasoning performance at lightning-fast speed. With **speculative decoding** optimized for Cerebras hardware, K2 Think will achieve unprecedented throughput of 2000 tokens per second, making it both one of the fastest and most efficient reasoning systems in existence.

K2 Think ranks among the industry's top reasoning systems, leading all open-source models in math performance across AIME '24/'25, HMMT '25, and OMNI-Math-HARD.

More than a technical achievement, K2 Think is a defining moment for AI in the UAE. It reflects how open innovation and close public–private partnerships can position Abu Dhabi as a global leader in AI, demonstrating that the future of reasoning will be shaped not only by size, but by ingenuity and collaboration.

His Excellency Khaldoon Khalifa Al Mubarak, Chairman of MBZUAI's Board of Trustees and Member of the Artificial Intelligence and Advanced Technology Council (AIATC), said: *"The new global benchmark set by K2 Think underscores the pioneering excellence of MBZUAI's Institute of Foundation Models initiative, an expedited pathway for global collaboration and cutting-edge research. It is also an*

example of the UAE's commitment to building advanced systems that are developed by our institutions and shared with the world - ultimately progressing technically groundbreaking, practical, and scalable innovations with transformative global impact."

Peng Xiao, MBZUAI Board Member, Council Member of Abu Dhabi's AI and Advanced Technology Council, and Group CEO of G42, added: *"K2 Think has shifted the AI reasoning paradigm from 'bigger is better' to 'smarter is better'. MBZUAI, supported by the UAE ecosystem, is pushing the AI frontier with technology that is open, efficient and highly capable. By proving that smaller, more resourceful models can rival the largest reasoning systems, this milestone marks the beginning of the next wave of AI innovation."*

Unlike most "open" AI models that stop at releasing weights, K2 Think is fully open source — from training data and parameter weights to software code for deployment and test-time optimization. This new level of transparency ensures that every step of how the model learns to reason can be studied, reproduced, and extended by the global research community.

Professor Eric Xing, MBZUAI President and University Professor, said: *"K2 Think, developed by MBZUAI's Institute of Foundation Models, is a significant advancement for the global AI research and development community. By delivering these advances in a fully transparent framework, we are ushering in a new era of cost-effective, reproducible and accountable AI. For an institution just five years young, we are immensely proud of our global researchers, engineers, and teams who are advancing science and technology with ingenuity and a pioneering spirit."*

K2 Think builds on a growing family of UAE-developed open-source models, including Jais (the world's most advanced Arabic LLM), NANDA (Hindi), and SHERKALA (Kazakh), and extends the pioneering legacy of K2-65B, the world's first fully reproducible open-source foundation model released in 2024.

K2 Think is available today at K2Think.Ai/K2Think and on Hugging Face.

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About Mohamed bin Zayed University of Artificial Intelligence (MBZUAI)

MBZUAI is a research-focused university in Abu Dhabi, and the first university dedicated entirely to the advancement of science through AI. The university empowers the next generation of AI leaders, driving innovation and impactful applications of AI through world-class education and interdisciplinary research. In 2025, MBZUAI launched its first ever

undergraduate program, a Bachelor of Science in AI, with two distinct streams: Business and Engineering. For more information, please visit www.mbzuai.ac.ae.

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