CuspAI Secures $30M to Combat Climate Change with AI-Designed Materials

CAMBRIDGE (UK), 0801 BST, TUESDAY 18 JUNE 2024: CuspAI, a transformational AI company building a platform for next-generation materials to tackle global sustainability and clean energy challenges has secured $30 million in seed funding from leading European and US venture funds.

The round was led by Hoxton Ventures, with significant participation from Basis Set Ventures and Lightspeed Venture Partners.

CuspAI leverages cutting-edge generative AI, deep learning, and molecular simulation to streamline the material design process. Their platform functions like a search engine for materials, allowing users to request specific properties for new materials on demand. This enables the rapid generation and evaluation of a vast number of novel structures, ultimately leading to the discovery of materials with precise functionalities.

One area in which the team believes AI-designed materials can have a significant near-term impact is carbon capture and storage, a critical technology for reducing greenhouse gas emissions and an industry expected to be worth $4 trillion by 2050.

CuspAI has been founded by Professor Max Welling, a renowned pioneer in AI and former Distinguished Scientist and VP at Microsoft Research and Qualcomm, and Professor at the University of Amsterdam. Co-founding the company with Welling is Dr. Chad Edwards, a chemist who has spent his career in deep-tech commercialisation including at Google and BASF and most recently quantum computing leader, Quantinuum.

Geoffrey Hinton, known as the ‘Godfather of AI,’ will also serve as a board advisor. Hinton said: “Humanity will face many challenges in the coming decade. Some will be caused by AI while others can be solved by AI. I’ve been very impressed by CuspAI and its mission to accelerate the design process of new materials using AI to curb one of humanity’s most urgent challenges – climate change.”

Professor Max Welling, Co-founder and Chief AI Officer at CuspAI, said: “Imagine a search engine not just for existing materials, but for all potential molecules and materials that could be created. Our AI can generate and evaluate new materials on demand. For example, you can request a material that selectively binds carbon dioxide under specified conditions – the AI then generates, evaluates and optimises the potential molecular structures that meet those exact criteria. Through careful process optimization and lab testing, we’re able to close the loop and ensure materials are synthesizable, stable and ultimately useful in production.”

CuspAI has partnered with Meta with a view to furthering its open science contributions focused on the discovery of new materials to address climate change.

Yann Le Cun, VP and Chief AI Scientist at Meta, said: “The Fundamental AI Research (FAIR) team is looking forward to collaborating with CuspAI in their use of AI, including our OpenDAC work, to accelerate the discovery of novel DAC sorbent materials. The world needs fast progress on affordable carbon capture, and we believe that CuspAI’s team is in an excellent position to apply AI-based materials discovery to this pressing problem.”
Dr. Chad Edwards, Co-founder and CEO of CuspAI, said: “The AI revolution is itself creating new challenges, including rapidly increasing energy consumption and carbon emissions from data centres. Our technology can help mitigate this impact by designing materials that efficiently capture carbon dioxide.

“Carbon capture is just the start – the material class we have in mind are well-suited for many other applications including energy storage, catalysis and gas and water purification. By harnessing AI for design and process optimisation we can create materials and solutions tailored to the specific needs of almost any industry. We are entering the age of ‘precision materials’.”

In addition to the founding team, CuspAI has appointed one of the world’s most accomplished computational chemists as Chief Scientist and assembled a world-leading research team across Cambridge (UK) and Amsterdam (NL), many of whom are joining from large tech players and are all motivated to ensure the latest advances in AI have a positive societal impact.

Other investors in the round include LocalGlobe, Northzone, Touring Capital, Giant Ventures, FJ Labs, Tiferes Ventures and Zero Prime Ventures. Prominent angel investors, including Mehdi Ghissassi and Dorothy Chou from Google Deepmind, also participated in the round.

Charles Seely, Partner at Hoxton Ventures, said: “I’ve known Chad for several years and recognized him as a truly gifted individual who had the ability to lead an extraordinary team. The partnership that he has forged with Max is one that I’m sure will help solve some of the world’s most critical problems.”

Lan Xuezhao, founding and managing partner at Basis Set Ventures, said: “The importance of new material discovery demands the mindshare of our absolute best and brightest. This Cusp team is exactly who you want dedicating their technical horsepower and business acumen to this essential effort.”

Paul Murphy, Partner at Lightspeed Venture Partners, said: “CuspAI is taking an entirely new approach to integrating efficient evaluation stacks, optimization, and generative models to create high-quality, economically viable materials that would have previously taken decades to discover. At Lightspeed, we believe the CuspAI team is leading the way into a new era where finding solutions for societally critical global challenges could become as easy as searching the web and we’re proud to partner with them.”

Hussein Kanji, Partner at Hoxton Ventures, said: “Our fund is premised on the idea that European founders would start and win the industry categories of tomorrow. It’s clear that AI has the ability to shake up how we design materials, and CuspAI has assembled some of the best people in the world to do this, starting with both Chad and Max.”

About CuspAI
CuspAI is an applied AI company dedicated to building a platform for next-generation materials that solve critical global challenges across sustainability and clean energy. By integrating advanced machine learning with material science and process design, CuspAI is unlocking the future of materials with AI. For more information visit: www.cuspai.com.

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