

Google DeepMind

RESEARCH

Millions of new materials discovered with deep learning

Meta

Discover climate change solutions with AI

Open Catalyst

AI at Meta and Carnegie Mellon University join forces to find more efficient and scalable ways to store and use renewable energy.

Research

Return to Blog Home

Microsoft Research Blog

MatterSim: A deep-learning model for materials under real-world conditions

Published May 13, 2024

By [Han Yang](#), Senior Researcher; [Jielan Li](#), Researcher 2; [Hongxia Hao](#), Senior Researcher; [Ziheng Lu](#), Principal Researcher

Share this page 

f

X

in

Orbital Materials

Introducing 'Orb' - the world's fastest and most accurate AI model for simulating advanced materials

September 3, 2024  
Jonathan Godwin

Today we've open-sourced 'Orb', the state of the art AI model for simulating advanced materials. Built upon our proprietary foundation model (LINUS), Orb outcompetes models from Google and Microsoft on accuracy and speed.

When we started Orbital, our goal was to leverage AI to accelerate the creativity and ingenuity of scientists creating the advanced materials that will power the energy transition. One way to do this is to use computers to peek into the inner functioning of materials - to simulate ("in silico") at an atomic level what would be impossible to view under a microscope. By understanding the mechanisms that give advanced materials their extraordinary properties, we can use computers to design more performant materials.