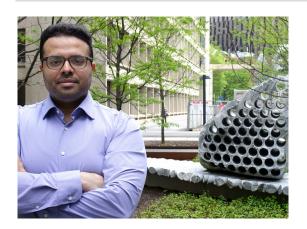


In the Lab





Al stirs up the recipe for concrete in MIT study

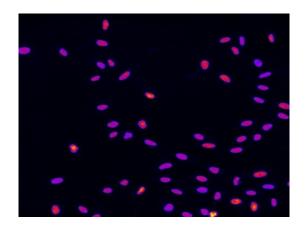
A machine-learning framework hunts for cement alternatives across the scientific literature.

An LLM-based method from the Lab group of Elsa Olivetti evaluates and sorts cement-substitute candidate materials based on their physical and chemical properties, identifying some that could, not only do the job, but also promote a circular economy with emissions and cost savings.

Al learns how vision and sound are connected, without human intervention

This new machine-learning model could someday help robots interact in the real world.

Research from the Lab teams of Rogerio Feris, Jim Glass, and Hilde Kuehne has yielded a machine-learning model that can match corresponding audio and visual data without labels: learning one video frame at a time. Further, the model incorporates a contrastive objective, where it learns to associate similar audio and visual data, and a reconstruction objective, which aims to recover specific audio and visual data based on user queries.





Al tool predicts potential drug targets by analyzing cell images

A new machine learning model connects images of DNA structure to gene regulation.

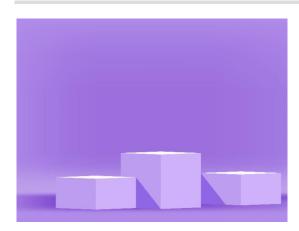
A machine-learning technique called Image2Reg from the Lab research group of Caroline Uhler can identify genes that have been altered just by analyzing an image of the cell's chromatin. The work could help to accelerate both research on the genetic causes of disease and drug discovery by predicting drug targets and mechanisms.

What's next for the future of computing

IBM Think 2025

During a keynote at IBM THINK 2025, thought-leaders — like Sriram Raghavan, vice president at IBM Research AI — shared insights about the evolution of AI, from foundation models through watsonx and the value of data to the future of generative computing for enterprise applications.

In the Media



Turning Al innovation into tangible results

While organizations are eagerly looking to adopt AI into their business models, David Cox — IBM vice president for AI models and Lab co-director — advices a "considered approach" in order to create the best value, reports The Wall Street Journal. He suggests understanding the proprietary data you have and applying it to small, targeted models could yield impressive results.

Event Recordings

MIT Ethics in Computing Research Symposium

The Social and Ethical Responsibilities of Computing (SERC) hosted a series of 15 thought-provoking TED style talks exploring the intersection of technology, ethics, and social responsibility in computing. MIT speakers — including Lab researchers Marzyeh Ghassemi, Joshua Tenenbaum, Arvind Satyanarayan, and Catherine D'Ignazio — explored topics ranging from algorithmic bias and privacy, to the societal impacts of artificial intelligence and the future of human-computer interaction.

Lab Highlights

In support of IBM's annual corporate expo "THINK", which was held in Boston last month, the Lab hosted roughly 750 visitors.

Several Lab researchers <u>received promotions</u>: Una-May O'Reilly to senior research scientist and Neil Thompson to principal research scientist. Additionally, Song Han, Kaiming He, Phillip Isola, Jonathan Ragan-Kelley, and Arvind Satyanarayan received associate professor with tenure.

Lab researcher Jonathan Ragan-Kelley received a 2025 Ruth and Joel Spira Award for Excellence in Teaching, recognizing "the tradition of high-quality engineering education at MIT."

Devavrat Shah received the <u>2025 ACM SIGMETRICS Achievement Award</u>, "in recognition of his outstanding contributions to the performance analysis and design of computer and communication networks."

Lab researcher Bilge Yildiz received the <u>Faraday Medal</u>. The award is given to individuals for notable scientific or industrial achievement in engineering or for conspicuous service rendered to the advancement of science, engineering, and technology.

Online Learning

Artificial Intelligence in Health Care

A joint MIT Sloan School of Management & MIT Jameel Clinic Course begins
June 11

Unsupervised Machine Learning: Unlocking the Potential of Data

A joint MIT Sloan & Schwarzman College of Computing Executive and Professional Course begins
June 11

Machine Learning in Business

A joint MIT CSAIL and MIT Sloan School of Management Course begins

June 11

Artificial Intelligence in Pharma and Biotech

An MIT Sloan School of Management Course begins
July 16

Graph Algorithms and Machine Learning

An MIT Professional Education Course begins
July 21

Frontiers of Generative AI in Business

A MIT Sloan Executive Education Course begins July 30

Advanced Reinforcement Learning

An MIT Professional Education Course begins July 31

Artificial Intelligence: Implications for Business Strategy

A joint MIT Sloan School of Management & MIT CSAIL Course begins August 13