



The NSF AI Institute for Foundations of Machine Learning and the Machine Learning Laboratory will be administratively housed in the Gates-Dell Complex at The University of Texas at Austin. Photo credit: Vivian Abagiu/University of Texas at Austin.

AUSTIN, Texas — The National Science Foundation has selected The University of Texas at Austin to lead the NSF AI Institute for Foundations of Machine Learning, bolstering the university’s existing strengths in this emerging field. Machine learning is the technology that drives AI systems, enabling them to acquire knowledge and make predictions in complex environments. This technology has the potential to transform everything from transportation to entertainment to health care.

UT Austin — already among the world’s top universities for artificial intelligence — is poised to develop entirely new classes of algorithms that will lead to more sophisticated and beneficial AI technologies. The university will lead a larger team of researchers that includes the University of Washington, Wichita State University and Microsoft Research.

“This is another important step in our university’s ascension as a world leader in machine learning and tech innovation as a whole, and I am grateful to the National Science Foundation for their profound support,” said UT Austin interim President Jay Hartzell. “Many of the world’s greatest problems and challenges can be solved with the assistance of artificial intelligence, and it’s only fitting, given UT’s history of accomplishment in this area along with the booming tech sector in Austin, that this new NSF institute be housed right here on the Forty Acres.”

UT Austin is simultaneously establishing a permanent base for campuswide machine learning research called the [Machine Learning Laboratory](#). It will house the new AI institute and bring together computer and data scientists, mathematicians, roboticists, engineers and ethicists to meet the institute’s research goals while also working collaboratively on other interdisciplinary projects. Computer science professor Adam Klivans, who led the effort to win the NSF AI institute competition, will direct both the new institute and the Machine Learning Lab. Alex Dimakis, associate professor of electrical and computer engineering, will serve as the AI institute’s co-director.

“Machine learning can be used to predict which of thousands of recently formulated drugs might be most effective as a COVID-19 therapeutic, bypassing exhaustive laboratory trial and error,” Klivans said. “Modern datasets, however, are often diffuse or noisy and tend to confound current techniques. Our AI institute will dig deep into the foundations of machine learning so that new AI systems will be robust to these challenges.”

Additionally, many advanced AI applications are limited by computational constraints. For example, algorithms designed to help machines recognize, categorize and label images can’t keep up with the massive amount of video data that people upload to the internet every day, and advances in this field could have implications across multiple industries.

Dimakis notes that algorithms will be designed to train video models efficiently. For example, Facebook, one of the AI institute’s industry partners, is interested in using these algorithms to make its platform more accessible to people with visual impairments. And in a partnership with Dell Medical School, AI institute researchers will test these algorithms to expedite turnaround time for medical imaging diagnostics, possibly reducing the time it takes for patients to get critical assessments and treatment.

The NSF is investing more than \$100 million in five new AI institutes nationwide, including the \$20 million project based at UT Austin to advance the foundations of machine learning.

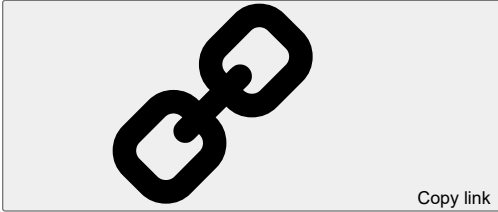
In addition to Facebook, Netflix, YouTube, Dell Technologies and the city of Austin have signed on to transfer this research into practice.

The institute will also pursue the creation of an online master’s degree in AI, along with undergraduate research programming and online AI courses for high schoolers and working professionals.

Austin-based tech entrepreneurs Zaib and Amir Husain, both UT Austin alumni, are supporting the new Machine Learning Laboratory with a generous donation to sustain its long-term mission.

“The university’s strengths in computer science, engineering, public policy, business and law can help drive applications of AI,” Amir Husain said. “And Austin’s booming tech scene is destined to be a major driver for the local and national economy for decades to come.”

The Machine Learning Laboratory is based in the Department of Computer Science and is a collaboration among faculty, researchers and students from across the university, including Texas Computing; Texas Robotics; the Department of Statistics and Data Sciences; the Department of Mathematics; the Department of Electrical and Computer Engineering; the Department of Information, Risk & Operations Management; the School of Information; the Good Systems AI ethics grand challenge team; the Oden Institute for Computational Engineering and Sciences; and the Texas Advanced Computing Center (TACC).



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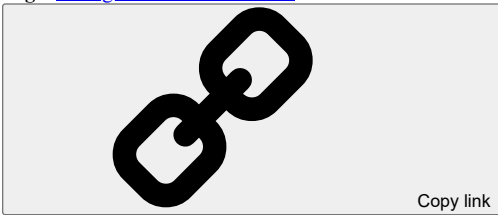


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