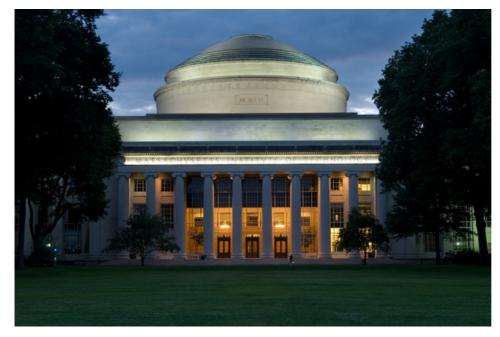# MIT News
ON CAMPUS AND AROUND THE WORLD

MIT will reshape itself to shape the future, investing $1 billion to address the rapid evolution of computing and AI — and its global effects. At the heart of this effort: a $350 million gift to found the MIT Stephen A. Schwarzman College of Computing.

Photo: Christopher Harting

MIT reshapes itself to shape the future
Gift of $350 million establishes the MIT Stephen A. Schwarzman College of Computing, an unprecedented, $1 billion commitment to world-changing breakthroughs and their ethical application.

Watch Video

MIT News Office
October 15, 2018

MIT today announced a new $1 billion commitment to address the global opportunities and challenges presented by the prevalence of computing and the rise of artificial intelligence (AI). The initiative marks the single largest investment in computing and AI by an American academic institution, and will help position the United States to lead the world in preparing for the rapid evolution of computing and AI.

At the heart of this endeavor will be the new MIT Stephen A. Schwarzman College of Computing, made possible by a $350 million foundational gift from Mr. Schwarzman, the chairman, CEO and co-founder of Blackstone, a leading global asset manager.

Headquartered in a signature new building on MIT's campus, the new MIT Schwarzman College of Computing will be an interdisciplinary hub for work

PRESS MENTIONS

President Reif speaks with Gerry Baker of *WSJ at Large* about the impact of AI on the future of education and work. "Part of the goal of the [MIT Schwarzman] college is, as we educate people to use these [AI] tools, to educate them in a way that empowers human beings, not replaces human beings," says Reif.

WSJ at **LARGE**
WITH GERRY BAKER

Writing for *The Washington Post*, Stephen A. Schwarzman - chairman, CEO and co-founder of Blackstone – describes the need to infuse ethics into the development of new AI technologies. "If we want to realize

in computer science, AI, data science, and related fields. The College will:

- reorient MIT to bring the power of computing and AI to all fields of study at MIT, allowing the future of computing and AI to be shaped by insights from all other disciplines;

- create 50 new faculty positions that will be located both within the College and jointly with other departments across MIT — nearly doubling MIT's academic capability in computing and AI;

- give MIT's five schools a shared structure for collaborative education, research, and innovation in computing and AI;

- educate students in every discipline to responsibly use and develop AI and computing technologies to help make a better world; and

- transform education and research in public policy and ethical considerations relevant to computing and AI.

With the MIT Schwarzman College of Computing's founding, MIT seeks to strengthen its position as a key international player in the responsible and ethical evolution of technologies that are poised to fundamentally transform society. Amid a rapidly evolving geopolitical environment that is constantly being reshaped by technology, the College will have significant impact on our nation's competitiveness and security.

"As computing reshapes our world, MIT intends to help make sure it does so for the good of all," says MIT President L. Rafael Reif. "In keeping with the scope of this challenge, we are reshaping MIT. The MIT Schwarzman College of Computing will constitute both a global center for computing research and education, and an intellectual foundry for powerful new AI tools. Just as important, the College will equip students and researchers in any discipline to use computing and AI to advance their disciplines and vice-versa, as well as to think critically about the human impact of their work. With uncommon insight and generosity, Mr. Schwarzman is enabling a bold agenda that will lead to a better world. I am deeply grateful for his commitment to our shared vision."

Stephen A. Schwarzman is chairman, CEO and co-founder of Blackstone, one of the world's leading investment firms, with approximately $440 billion in assets under management. Mr. Schwarzman is an active philanthropist with a history of supporting education, culture, and the arts, among other things. Whether in business or philanthropy, he has dedicated himself to tackling global-scale problems, with transformative and paradigm-shifting solutions.

This year, he gave $5 million to Harvard Business School to support the

AI's incredible potential, we must also advance AI in a way that increases the public's confidence that AI benefits society," says Schwarzman, who provided foundational funding for MIT's new college of computing.

The Washington Post

Provost Martin Schmidt and SHASS Dean Melissa Nobles speak with *Wall Street Journal* reporter Sara Castellanos about MIT's efforts to advance the study of AI and its ethical and societal implications through the MIT Stephen A. Schwarzman College of Computing. Schmidt says this work "requires a deep partnership between the technologists and the humanists."

THE WALL STREET JOURNAL.

MIT's new college of computing represents the Institute's "first fundamental restructuring in nearly 70 years," writes Kaveh Wadell of *Axios*. The college is intended to connect parts of the Institute that have been "siloed from MIT's technology focus" and encourage students "to develop 'bilingual' skills: that is, to study computing and another discipline together."

AXIOS

Taylor Pettaway of the *Boston Herald* writes that MIT's new college of computing will be one of the university's largest structural changes made since 1950. Offering classes in different fields, "students will be able to experience on campus new computational tools and these new abilities transform academics on campus with every study," says Provost Martin Schmidt.

BOSTON Herald

WGBH reporter Maggie Penn

development of case studies and other programming that explore the implications of AI on industries and business. In 2015, Mr. Schwarzman donated $150 million to Yale University to establish the Schwarzman Center, a first-of-its-kind campus center in Yale's historic Commons building. In 2013, he founded a highly selective international scholarship program, Schwarzman Scholars, at Tsinghua University in Beijing to educate future global leaders about China. At $578 million raised to date, the program is modeled on the Rhodes Scholarship and is the single largest philanthropic effort in China's history coming largely from international donors.

"There is no more important opportunity or challenge facing our nation than to responsibly harness the power of artificial intelligence so that we remain competitive globally and achieve breakthroughs that will improve our entire society," Mr. Schwarzman says. "We face fundamental questions about how to ensure that technological advancements benefit all — especially those most vulnerable to the radical changes AI will inevitably bring to the nature of the workforce. MIT's initiative will help America solve these challenges and continue to lead on computing and AI throughout the 21st century and beyond."

"As one of the world leaders in technological innovation, MIT has the right expertise and the right values to serve as the 'true north' of AI in pursuit of the answers we urgently need," Mr. Schwarzman adds. "With the ability to bring together the best minds in AI research, development, and ethics, higher education is uniquely situated to be the incubator for solving these challenges in ways the private and public sectors cannot. Our hope is that this ambitious initiative serves as a clarion call to our government that massive financial investment in AI is necessary to ensure that America has a leading voice in shaping the future of these powerful and transformative technologies."

New college, structure, building, and faculty

The MIT Schwarzman College of Computing represents the most significant structural change to MIT since the early 1950s, which saw the establishment of schools for management and for the humanities and social sciences:

- The College is slated to open in Sept. 2019, with construction of a new building for the College scheduled to be completed in 2022.

- Fifty new faculty positions will be created: 25 to be appointed to advance computing in the College, and 25 to be appointed jointly in the College

examines how the MIT Stephen A. Schwarzman College of Computing will integrate the study of computer science and AI into every academic discipline. "Much of higher education is silo-ed, a lot of universities are dealing with that," explains Melissa Nobles, dean of SHASS. "This is a really creative way of getting around that and creating something new that is truly collaborative."

WGBH

Chronicle of Higher Education reporter Lee Gardner notes that MIT is making a $1 billion investment in furthering the study of computation and AI. "The institute's project will support the search for solutions to two other daunting challenges," Gardner explains, "how to handle the ethical and philosophical implications of AI for the societies it will transform, and how to break down institutional silos in academe."

THE CHRONICLE

Science reporter Jeffrey Mervis notes that the $350 million gift from Stephen Schwarzman, which will help establish a new college of computing at MIT, will enable the Institute to hire 50 new faculty members. Provost Martin Schmidt notes that the college will be instrumental in "linking computation to all disciplines on campus."

Science

Scott Jaschik of *Inside Higher Ed* reports that MIT has announced a $1 billion plan to create a college of computing. The college, which will be named for Stephen Schwarzman, will also "promote teaching and research on computing and artificial intelligence."

INSIDE HIGHER ED

and departments across MIT.

- A new deanship will be established for the College.

Today's news follows a period of consultation of the MIT faculty led by President Reif, Provost Martin Schmidt, and Dean of the School of Engineering Anantha Chandrakasan. The chair of the faculty, Professor Susan Silbey, also participated in these consultations. Reif and Schmidt have also received letters of support for the College from academic leadership across MIT.

"Because the journey we embark on today will be Institute-wide, we needed input from across MIT in order to establish the right vision," Schmidt says. "Our planning benefited greatly from the imagination of many members of our community — and we will seek a great deal more input over the next year. By design, the College will not be a silo: It will be connective tissue for the whole Institute."

"I see exciting possibilities in this new structure," says Melissa Nobles, dean of the MIT School of Humanities, Arts, and Social Sciences. "Faculty in a range of departments have a great deal to gain from new kinds of algorithmic tools — and a great deal of insight to offer their makers. Faculty in every school at MIT will be able to shape the work of the College."

At its meeting on Oct. 5, the MIT Corporation — MIT's board of trustees — endorsed the establishment of the College.

Corporation Chair Robert Millard says, "The new College positions MIT to lead in this important area, for the benefit of the United States and the world at large. In making this historic gift, Mr. Schwarzman has not only joined a select group of MIT's most generous supporters, he has also helped give shape to a vision that will propel MIT into the future. We are all deeply grateful."

Empowering the pursuit of MIT's mission

The MIT Schwarzman College of Computing will aspire to excellence in MIT's three main areas of work: education, research, and innovation:

- The College will teach students the foundations of computing broadly and provide integrated curricula designed to satisfy the high level of interest in majors that cross computer science with other disciplines, and in learning how machine learning and data science can be applied to a variety of fields.

- It will seek to enable advances along the full spectrum of research — from

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MIT's new college of computing will teach students how to apply computer science and artificial intelligence in their specific field of study, writes Dave Gershgorn for *Quartz*. Gershgorn notes that researchers studying the impact of AI on society "have consistently suggested the expansion of interdisciplinary education, on the grounds that computer scientists can sometimes overlook the nuances of other fields."

QUARTZ

With the MIT Stephen A. Schwarzman College of Computing, MIT is looking to educate the next generation of people working in the field of AI and computer science, writes James Vincent for *The Verge.* Vincent explains that the college is also aimed at investigating the ethics involved with the fields of computing and AI, positioning "the college as an ethically minded enterprise."

THE VERGE

In an article for *TechCrunch*, Danny Crichton calls the new MIT Stephen A. Schwarzman College of Computing a "doubling down on the future of computer science." Crichton writes that "the objective of the new school will be to ensure that all MIT students become familiar with the field regardless of their chosen profession."

TC

Boston Globe reporter Andy Rosen writes that MIT is establishing a college of computing as part of an effort to examine the impact computer science and AI is having on all disciplines. "We have to move much faster educating the next generation for the new economy," explains

fundamental, curiosity-driven inquiry to research on market-ready applications, in a wide range of MIT departments, labs, centers, and initiatives.

"As MIT's partner in shaping the future of AI, IBM is excited by this new initiative," says Ginni Rometty IBM chairman, president, and CEO. "The establishment of the MIT Schwarzman College of Computing is an unprecedented investment in the promise of this technology. It will build powerfully on the pioneering research taking place through the MIT-IBM Watson AI Lab. Together, we will continue to unlock the massive potential of AI and explore its ethical and economic impacts on society."

Sparking thought around policy and ethics

The MIT Schwarzman College of Computing will seek to be not only a center of advances in computing, but also a place for teaching and research on relevant policy and ethics to better ensure that the groundbreaking technologies of the future are responsibly implemented in support of the greater good. To advance these priorities, the College will:

- develop new curricula that will connect computer science and AI with other disciplines;

- host forums to engage national leaders from business, government, academia, and journalism to examine the anticipated outcomes of advances in AI and machine learning, and to shape policies around the ethics of AI;

- encourage scientists, engineers, and social scientists to collaborate on analysis of emerging technology, and on research that will serve industry, policymakers, and the broader research community; and

- offer selective undergraduate research opportunities, graduate fellowships in ethics and AI, a seed-grant program for faculty, and a fellowship program to attract distinguished individuals from other universities, government, industry, and journalism.

"Computing is no longer the domain of the experts alone. It's everywhere, and it needs to be understood and mastered by almost everyone. In that context, for a host of reasons, society is uneasy about technology — and at MIT, that's a signal we must take very seriously," President Reif says. "Technological advancements must go hand in hand with the development of ethical guidelines that anticipate the risks of such enormously powerful innovations. This is why we must make sure that the leaders we graduate offer the world not only technological wizardry but also human wisdom — the cultural, ethical, and historical consciousness to use technology for the

President L. Rafael Reif. "The way to do that is to come up with integrated curriculum."

The Boston Globe

President L. Rafael Reif joins Bloomberg Bay State Business to speak with hosts Peter Barnes, Janet Wu and Pat Carroll about MIT's $1 billion commitment to furthering the study of computer science and AI through a new college for computing.

Bloomberg

Financial Times reporter Clive Cookson writes that MIT is establishing a college of computing to help students and researchers use computing and AI to advance their work. President L. Rafael Reif explains that the MIT Stephen A. Schwarzman College of Computing "will constitute both a global centre for computing research and education, and an intellectual foundry for powerful new AI tools."

FINANCIAL TIMES

The New York Times writes about the new MIT Stephen A. Schwarzman College of Computing, calling MIT's move "a particularly ambitious step." President Reif says the College will "educate the bilinguals of the future," people in fields like biology, chemistry, politics, history, and linguistics who are also skilled in the techniques of modern computing that can be applied to them.

The New York Times

RELATED

President L. Rafael Reif

common good."

"The College's attention to ethics matters enormously to me, because we will never realize the full potential of these advancements unless they are guided by a shared understanding of their moral implications for society," Mr. Schwarzman says. "Advances in computing — and in AI in particular — have increasing power to alter the fabric of society. But left unchecked, these technologies could ultimately hurt more people than they help. We need to do everything we can to ensure all Americans can share in AI's development. Universities are best positioned for fostering an environment in which everyone can embrace — not fear — the transformations ahead."

In its pursuit of ethical questions, the College will bring together researchers in a wide range of MIT departments, labs, centers, and initiatives, such as the Department of Electrical Engineering and Computer Science; the Computer Science and Artificial Intelligence Lab; the Institute for Data, Systems, and Society; the Operations Research Center; the Quest for Intelligence, and beyond.

"There is no doubt that artificial intelligence and automation will impact every facet of society. As we look to the future, we must utilize these important technologies to shape our world for the better and harness their power as a force for social good," says Darren Walker, president of the Ford Foundation. "I believe that MIT's groundbreaking initiative, particularly its commitment to address policy and ethics alongside technological advancements, will play a crucial role in ensuring that AI is developed responsibly and used to make our world more just."

Building on history and breadth

The MIT Schwarzman College of Computing will build on MIT's legacy of excellence in computation and the study of intelligence. In the 1950s, MIT Professor Marvin Minsky and others created the very idea of artificial intelligence:

- Today, Electrical Engineering and Computer Science (EECS) is by far the largest academic department at MIT. Forty percent of MIT's most recent graduating class chose it, or a combination of it and another discipline, as their major. Its faculty boasts 10 of the 67 winners of the Turing Award, computing's highest honor.

- The largest laboratory at MIT is the Computer Science and Artificial Intelligence Laboratory, which was established in 2003 but has its roots in two pioneering MIT labs: the Artificial Intelligence Lab, established in 1959 to conduct pioneering research across a range of applications, and the

Laboratory for Computer Science, established in 1963 to pursue a Department of Defense project for the development of a computer system accessible to a large number of people.

- The College's network function will rely on academic excellence across MIT. Outside of computer science and AI, the Institute hosts a high number of top-ranked departments, ready to be empowered by advances in these digital fields. *U.S. News and World Report* cites MIT as No. 1 in six graduate engineering specialties — and No. 1 in 17 disciplines and specialties outside of engineering, too, from biological sciences to economics.

"A bold move to reshape the frontiers of computing is what you would expect from MIT," says Eric Schmidt, former executive chairman of Alphabet and a visiting innovation fellow at MIT. "I'm especially excited about the MIT Schwarzman College of Computing, however, because it has such an obviously human agenda." Schmidt also serves on the advisory boards of the MIT Quest for Intelligence and the MIT Work of the Future Task Force.

"We count many MIT graduates among our team at Apple, and have long admired how the school and its alumni approach technology with humanity in mind. MIT's decision to focus on computing and AI across the entire institution shows tremendous foresight that will drive students and the world toward a better future," says Apple CEO Tim Cook.

The path forward

On top of Mr. Schwarzman's gift, MIT has raised an additional $300 million in support, totaling $650 million of the $1 billion required for the College. Further fundraising is being actively pursued by MIT's senior administration.

Provost Schmidt has formed a committee to search for the College's inaugural dean. He will also host forums in the coming days that will allow members of the MIT community to ask questions and offer suggestions about the College. The provost will work closely with the chair of the faculty and the dean of the School of Engineering to define the process for standing up the College.

"I am truly excited by the work ahead," Schmidt says. "The MIT community will give shape and energy to the College we launch today."

Topics: President L. Rafael Reif   Artificial intelligence

Machine learning   Administration   Faculty   Staff   Algorithms

Research   Computer science and technology

Computer Science and Artificial Intelligence Laboratory (CSAIL)

Quest for Intelligence   Technology and society   Giving   Ethics

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MIT Schwarzman College of Computing

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MIT News Office • Building 11-400
Massachusetts Institute of Technology • Cambridge, MA 02139-4307