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## Business Day

### New Research Center to Explore Ethics of Artificial Intelligence

By JOHN MARKOFF

Carnegie Mellon University plans to announce on Wednesday that it will create a research center that focuses on the ethics of artificial intelligence.

The ethics center, called the K&L Gates Endowment for Ethics and Computational Technologies, is being established at a time of growing international concern about the impact of A.I. technologies. That has already led to an array of academic, governmental and private efforts to explore a technology that until recently was largely the stuff of science fiction.

In the last decade, faster computer chips, cheap sensors and large collections of data have helped researchers improve on computerized tasks like machine vision and speech recognition, as well as robotics.

Earlier this year, the White House held a series of workshops around the country to discuss the impact of A.I., and in October the Obama administration released a report on its possible consequences. And in September, five large technology companies — Amazon, Facebook, Google, IBM and Microsoft — created a partnership to help establish ethical guidelines for the design and deployment of A.I. systems.

Subra Suresh, Carnegie Mellon's president, said injecting ethical discussions into A.I. was necessary as the technology advanced. While the idea of "Terminator" robots still seems far-fetched, the United States military is studying autonomous weapons that could make killing decisions on their own — a development that war planners think would be unwise.

"We are at a unique point in time where the technology is far ahead of society's ability to restrain it," Mr. Suresh noted.

But at the same time, he said some people are a bit too optimistic about their claims of A.I. advances, particularly when it comes to autonomous vehicles.

Mr. Suresh said he personally did not think self-driving cars would be in widespread use in the next three years.

Last year, Carnegie Mellon drew national attention when a group of 36 technical staff members and four faculty members



JEFF SWENSEN FOR THE NEW YORK TIMES

Uber Fusions in Pittsburgh.

left to join a new self-driving car laboratory that Uber established in Pittsburgh. The company recently started testing self-driving cars around the city.

The Uber laboratory has been a sensitive spot for Carnegie Mellon. The field of artificial intelligence emerged in part at Carnegie Mellon in the 1950s in the work of faculty who developed software that showed how computer algorithms could intelligently solve problems.

University officials said the departing faculty have been replaced and 13 additional professors have been hired since the defections. They also said that between 2011 and 2015, Carnegie Mellon faculty and staff created 164 start-up companies.

University officials pointed to a partnership with Boeing to use machine-learning techniques to analyze vast amounts of data generated by modern aircraft such as the Boeing Dreamliner.

The new center is being created with

a \$10 million gift from K&L Gates, an international law firm headquartered in Pittsburgh. It will draw from several academic disciplines and will initially add two faculty positions and three for graduate students. It will also establish a biennial conference on ethical issues facing the field.

K&L Gates is one of the nation's largest law firms. William H. Gates Sr., father of the Microsoft co-founder Bill Gates, was involved in the firm until his retirement in 1998.

Peter J. Kalis, chairman of the law firm, said the potential impact of A.I. technology on the economy and culture made it essential that as a society we make thoughtful, ethical choices about how the software and machines are used.

"Carnegie Mellon resides at the intersection of many disciplines," he said. "It will take a synthesis of the best thinking of all of these disciplines for society to define the ethical constraints on the emerging A.I. technologies."