Deep Learning Luminary Yoshua Bengio Joins Recursion Pharmaceuticals as Key Advisor

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Bengio to advise on Recursion's unique approach to discovering new therapies for rare genetic diseases at the intersection of deep learning and biology

SALT LAKE CITY, April 28, 2017 /PRNewswire/ -- Recursion Pharmaceuticals, an emerging biotechnology company that combines innovative biological science with machine learning techniques to discover treatments for rare genetic diseases, today announced that Yoshua Bengio will be joining the company as a scientific advisor. In this role, Bengio will further Recursion's machine learning advancements in drug discovery through his expertise in deep learning, while also helping to grow the Recursion team to drive these advancements.

Recursion conducts image-based biology experiments at scale to continuously generate one of the world's largest high-resolution microscopy datasets. The company expects to produce tens of millions of images in the coming year, each designed with the goal of discovering treatments for rare genetic diseases and other disorders. As a preeminent expert in artificial intelligence and machine learning, Bengio is considered one of the fathers of deep learning, dating back to his research on neural networks and machine learning, as early as the 1980s.

"I and some of my colleagues recognized the potential for neural networks in the 1980s. The explosion of data sizes and computational power along with progress in algorithms in recent years has placed neural networks back at the top of machine learning and artificial intelligence research agendas," said Yoshua Bengio. "The distinguishing feature of deep learning is the ability to build many layers of increasingly abstract non-linear representations from multiple, heterogeneous data sources. In biology, this means we can now answer questions that were previously intractable by applying deep learning to Recursion's huge dataset of high-resolution cellular images, coupled with existing biological and chemical data. In so doing we hope to, among many things, rapidly discover many novel therapies for rare genetic diseases."

Bengio serves as a professor in the Department of Computer Science and Operations Research at the Montreal Institute for Learning Algorithms at the University of Montreal in Canada. As one of the foremost experts on the subject, he is also a Canada Research Chair in Statistical Learning Algorithms. Last year, Bengio co-founded an AI-first company, Element AI, which spins off applications of AI across economic sectors.

Recursion has developed a set of computational and experimental methods that allow it to answer a huge diversity of biological questions rapidly, efficiently and in parallel using the images it produces. Using a combination of machine vision and feature extraction methods, together with cutting edge techniques and powerful deep learning methods, Recursion automates understanding and analysis of these questions from images of cells.

"At Recursion, we recognized early on the significance and potential of applying computer science to advance drug discovery," said Blake Borgeson, Ph.D., co-founder and CTO of Recursion Pharmaceuticals. "Yoshua is the ideal advisor to help Recursion further develop our deep learning approaches and drive advances in biology research with a breadth, efficiency and accuracy that only five years ago would have seemed impossible."

About Recursion Pharmaceuticals

Recursion Pharmaceuticals is a Salt Lake City-based biotechnology company. Recursion combines experimental biology and bioinformatics with artificial intelligence in a massively parallel system to quickly and efficiently identify treatments for any disease which can be modeled at the cellular level. From its initial and continued focus on drug repurposing to treat rare diseases, Recursion has broadened its platform to probe rich data from high-throughput automated screens for a number of indications, including aging, inflammation, infectious disease, oncology, and diagnostics. Learn more at www.recursionpharma.com, or connect on Twitter, Facebook, and LinkedIn.

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