# LRNZ

## *TrueShares AI & Deep Learning Fund*

### Understanding LRNZ

The TrueShares AI & Deep Learning Fund (LRNZ) is an actively managed ETF that seeks to provide targeted exposure to companies that are significantly involved in the application of high levels of artificial intelligence. This concentrated portfolio will generally hold the publicly listed equities of 20 to 30 companies in the technology sector.  LRNZ's investment approach targets two specific areas of focus within Artificial Intelligence, Machine Learning, or Deep Learning.  First, companies with leading-edge technologies that enable these AI platforms to operate.  Second, companies with innovative algorithms or platforms that provide a distinct competitive advantage in the marketplace. LRNZ's approach strives to give exposure to the true breadth of the opportunity in Artificial Intelligence.

# What is artificial intelligence?

Broadly speaking, Artificial Intelligence refers to machines that are programmed to behave or "think" in ways similar to that of human beings. Today, software is the brains of modern machines like computers, phones, robots, cloud, data centers, etc. However, the productivity and performance of software has been gradually plateauing for the last several decades as programmers try to tackle increasingly complex problems with software that must be pre-programed for every possible outcome. Artificial Intelligence offers a new way forward with machines that think and solve problems that software engineers cannot anticipate.

# Why does it matter?

Recently, a confluence of factors including the growth in big data[1], ballooning computational power[2] and innovations in GPUs (graphics processing units) [3] have all contributed to an ongoing leap forward in the artificial intelligence and deep learning spaces. Thanks to the myriad of promising potential applications for artificial intelligence and deep learning and the pursuit of tremendous competitive advantages, the industry has attracted billions in investments, and investment in the space appears very likely to continue.[4] Artificial intelligence has already been succesfully applied to problems that were previously believed to be beyond the abilities of computers, such as computer vision[5] and parsing human speech[6], and has the capacity to automate other tasks that require human-like intelligence in the future (for example self-driving cars)[7]. A compelling proposition to businesses and their investors alike.

# Understanding the Different Levels of AI
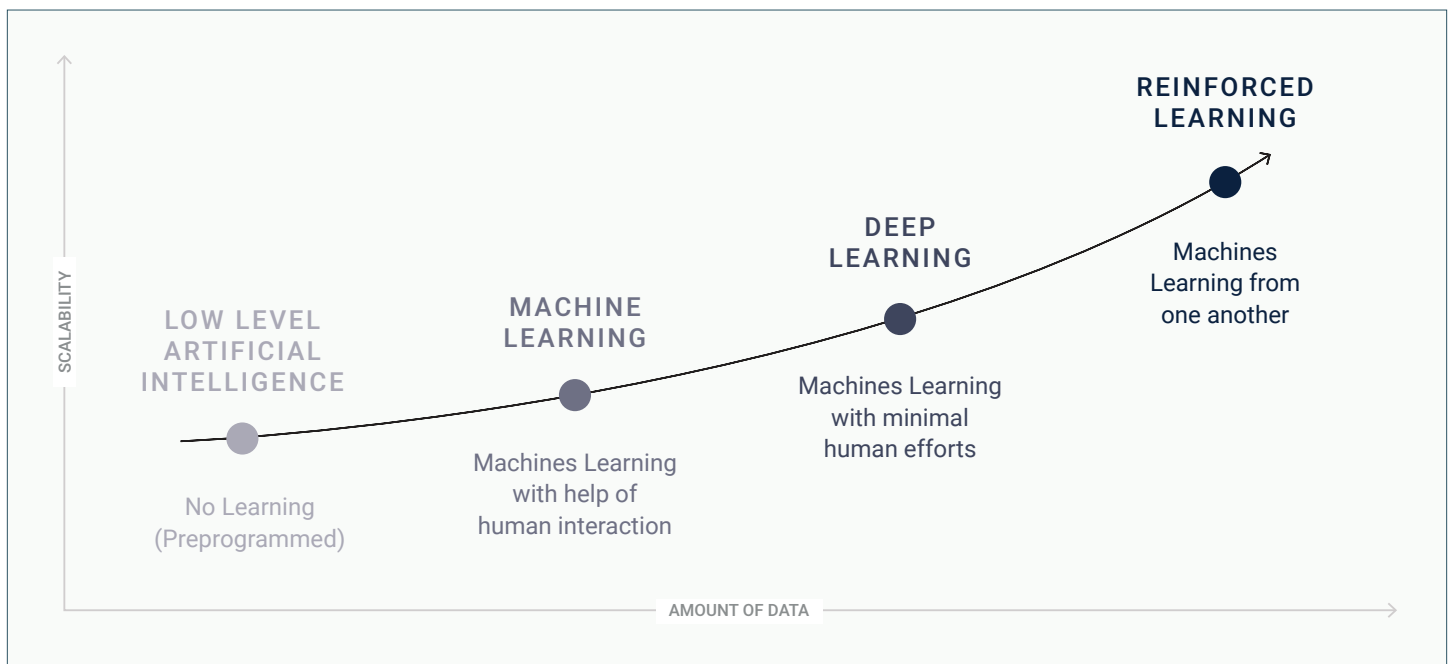


# Machine Learning vs. Deep Learning

The primary difference between machine learning and deep learning systems is the need for structured data for the respective systems to learn. Using the example of self-driving cars, let's think about the experience of traffic signals. In a machine learning context, the system will require structured data first (ex. - images of traffic lights) to serve as a framework for it to learn on its own what the different phases mean (go, slow, stop). In a deep learning context, it doesn't require the image of the lights to be fed to it but rather will learn the different traffic light phases through "neural networks" with different hierarchies for each feature of the traffic light and corresponding response (ex. - starting, slowing or stopping).

1    https://techjury.net/stats-about/big-data-statistics/
2    https://www.visualcapitalist.com/visualizing-trillion-fold-increase-computing-power/
3    https://racksimply.com/gpus-graphics-processing-units-shaping-future/
4    https://www.ifc.org/wps/wcm/connect/7898d957-69b5-4727-9226-277e8ae28711/EMCompass-Note-71-AI-Investment-Trends.pdf?MOD=AJPERES&CVID=mR5Jvd6
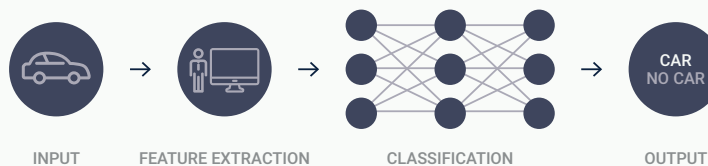5    https://cds.cern.ch/record/400313/files/p21.pdf
6    https://becominghuman.ai/a-simple-introduction-to-natural-language-processing-ea66a1747b32
7    https://www.machinedesign.com/mechanical-motion-systems/article/21838234/how-ai-is-paving-the-way-for-autonomous-cars

| MACHINE LEARNING | INPUT | FEATURE EXTRACTION | CLASSIFICATION | OUTPUT |

**MACHINE LEARNING**
The ability to learn without explicitly being programmed.

INPUT → FEATURE EXTRACTION → CLASSIFICATION → OUTPUT (CAR NO CAR)

**DEEP LEARNING**
Underlying data features are learned using neural networks and optimization with minimal or no human effort.

INPUT → FEATURE EXTRACTION + CLASSIFICATION → OUTPUT (CAR NO CAR)

## A Unique ETF in the Technology Space

LRNZ fills a major hole for investors who are looking to gain focused concentrated exposure to the opportunity that AI potentially offers over the coming years. To our knowledge, LRNZ is the only AI fund that is solely focused on the more advanced applications of Artificial Intelligence utilized in areas such as cloud computing, cyber security and medical research, without adding exposure to legacy robotics or software applications. Artificial Intelligence offers the potential to revolutionize the way technology and businesses operate and LRNZ is intent on investing in companies that we believe will lead this generational innovation.

## Actively Managed by Subadvisor Black Hill Capital Partners

LRNZ is actively managed by Sam Kim, a cofounder of Black Hill Capital Partners with more than 25 years of experience in the investment industry, specializing in technology-related sectors. Prior to founding Black Hill Capital Partners, Mr. Kim was a Senior Analyst at Amerindo Investment Advisors. Mr. Kim also has first-hand knowledge as a software systems engineer at Raytheon and Teledyne Browne. Mr. Kim has a BS in Bio-Medical Engineering and a MS in Computer Engineering from Boston University as well as a MS in Management from the Sloan School of Management at MIT.

## Where might LRNZ fit into an investor's portfolio?

LRNZ is an alpha-seeking actively managed portfolio that is designed to navigate the early, hyper-growth stages in this unique technology space. This fund may serve well as a satellite holding or as an addition to core NASDAQ holdings to gain exposure to the singular opportunity Artificial Intelligence technology offers.