CENTER FOR DEEP LEARNING IN ELECTRONICS MANUFACTURING

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CENTER FOR DEEP LEARNING IN ELECTRONICS MANUFACTURING ANNOUNCED BY INDUSTRY LEADERS NUFLARE TECHNOLOGY, MYCRONIC AND D2S USING NVIDIA TECHNOLOGY

New Center for Deep Learning to Drive Innovation in Electronics Design and Manufacturing

SAN JOSE, Calif., September 12, 2018 – An alliance of leading companies in the electronics industry today announced the formation of the Center for Deep Learning in Electronics Manufacturing (CDLe). Recognizing the transformative potential for electronics manufacturing, these industry leaders, which include NuFlare Technology, Inc., Mycronic AB and D2S, Inc., have established the center to advance the state-of-the-art in deep learning for their industry-specific applications.

Located in San Jose, Calif., the CDLe provides a collaborative environment that enables the pooling of talent and resources to accelerate the adoption of deep learning for each company's products in their specific areas of expertise. The center will help ensure the success of each company's customers by speeding the ramp and use of deep learning technologies to provide advanced offerings for electronics manufacturing by leveraging GPUs and deep learning expertise from NVIDIA.

Deep learning flips the programming paradigm

The CDLe is focused on deep learning, which is a subset of artificial intelligence (AI) and machine learning that employs sophisticated neural networks to flip the programming paradigm. Instead of writing software that dictates how to transform inputs to outputs, deep learning automatically learns how to predict actual outputs from actual data. For complex machinery in an unpredictable physical world, this approach has proven to be more accurate than traditional feature engineering. The focus of the collaboration is to leverage deep learning's powerful problem-solving potential for electronics manufacturing.

"We work in an environment where the data volume is huge," said Hirokazu Yamada, director of the Mask Lithography Division at NuFlare Technology. "For example, a multi-beam mask writer processes, computes, transmits, and writes 540 terabytes of data in 10 hours. In addition to deep learning of big data available from manufacturing, availability of accurate simulation provides an opportunity for training in novel applications. With our commitment and collaboration to form the CDLe, NuFlare looks forward to speeding the time-to-market and use of deep learning to solve the many challenges for electronics manufacturing."

Johan Franzén, senior vice president, R&D, at Mycronic, said, "I'm pleased that we continue executing on our strategic direction to leverage digitalization to expand our offering, enhancing the functionality in data and image treatment and further strengthening our position within Industry 4.0 applications. Deep learning can provide both novel solutions to existing problems as well as new applications and services to help our customers increase yield, productivity and performance. Establishing the center will provide access to industry expertise and computing resources to accelerate our progress in these areas."

"GPU-accelerated computing power has fueled the recent growth and widespread application of deep learning," said Aki Fujimura, chief executive officer of D2S, Inc. "It is enabling new types of software applications that were mere science fiction as recently as a decade ago. NuFlare is a leader in semiconductor mask manufacturing equipment, while Mycronic is a leader in flat panel display mask manufacturing equipment. Together they represent a very important part of the electronics manufacturing supply chain. We look forward to working with these industry leaders in the formation of the CDLe to advance the use of deep learning technologies for the electronics manufacturing industry."

According to Jerry Chen, business development lead for industrial applications at NVIDIA, "GPU computing has achieved great success in semiconductor design, simulation, and manufacturing. But as process technology shrinks, the physics is becoming increasingly difficult to simulate. At the same time, the sensor data is growing exponentially. This creates an opportunity for data-driven approaches like deep learning to complement physical models. We look forward to supporting CDLe and their efforts to achieve breakthrough results."

For more information on the Center for Deep Learning in Electronics Manufacturing, please visit: www.cdle.ai

About Center for Deep Learning in Electronics Manufacturing

The Center for Deep Learning in Electronics Manufacturing (CDLe) is an alliance of leaders in the electronics manufacturing industry that recognizes the potential of deep learning. CDLe pools talent and resources to advance the state-of the-art in deep learning for each member company's unique applications. Members accelerate the adoption of deep learning to improve their respective offerings to their customers. For more information, please visit: www.cdle.ai

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