

# SE&T Colloquium Series-Winter 2019

Speaker	Dr. Il-Hyung Cho Department of Computer Science and Information Systems
Title	<i>Using Deep Learning to Get Business Insights</i>
Abstract	<p>The term, “artificial intelligence” was coined in 1955. AI has become a buzzword since then but had not achieved a notable success nor made a big impact on business and everyday human life until mid-2010 with the arrival of massively parallel processors, specifically, affordable GPUs (Graphics Processor Units) and an easy parallel programming platform called CUDA from NVIDIA, and deep learning neural network model development tools like TensorFlow. Google’s AlphaGo, which beat human Go world champion, was trained using TensorFlow. Today, artificial intelligence (AI) is emerging as a new dominant technology that has the potential for ample new opportunities for entrepreneurship to initiate the new business. Kevin Kelly, the founder of the Wired Magazine, said in 2014 “The business plans of the next 10,000 startups are easy to forecast: Take X and add AI. This is a big deal, and now it’s here.”</p> <p>Big Data technology and machine learning (and deep learning) which is a subfield of AI are different technologies but are related and complementary to each other. Big Data has a focus on gaining insight from data sets, possibly from raw and uncleaned data. Machine learning focuses on learning from existing data either supervised or unsupervised and making better decisions from learning. Machine learning depends on Big Data technology for gathering relevant dataset for training and building intelligence. With more data from Big Data fed to GPUs, machine learning algorithms can more quickly and accurately learn and reproduce human behavior and intelligence. AI would not be able to function properly if the data being used for learning and training is not good or enough. The combined AI/Big Data technology is comparable to the big industrial leaps brought about by the Internet technology, World Wide Web (WWW), and Wireless Mobile computing.</p> <p>AI technology has become a general-purpose technology (as with steam engine in 1700s, electricity in late 1800s, and the Internet and WWW in 1990s). AI offers variety of entrepreneurial opportunities. Entrepreneurs create new firms based on new ideas. They innovate products and process, and open new markets and change organizations. This paper will look at the structure of deep neural networks and show how business insights can be acquired from neural networks, and further, show how neural networks can help entrepreneurs with insight to make a right market choice by reducing risks and maximizing returns.</p>
Date	Tuesday, April 16
Time	4:10-5:00pm
Place	Pioneer 240
	Refreshments will be served at 4:00pm.