

Department Lecture Series



The Deep Learning Revolution

Dr. Alex Acero

**Senior Director
Apple Inc.
Cupertino, CA**

Thursday, January 31st

4:30 pm WEH 5421

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Abstract:

Deep Learning is a hot technology, with many papers using acronyms like DNN, CNN or LSTMs. But Neural Networks have been around for decades, so in this talk I will explain what has changed and what has caused deep learning to now take center stage. I will give a bit of history of deep learning and describe the basic concepts behind it, including its "deep" Signal Processing roots. Deep Learning is now used in many fields, showing success in fields such as speech technology, natural language processing, computer vision, genetics, games. So I will show a few examples where deep learning is changing our daily lives and the way we interact with technology.

Bio:

Alex Acero is Sr. Director at Apple in charge of speech recognition, speech synthesis, and machine translation for Siri, Apple's personal assistant for iPhone, iPad, Apple Watch, Apple TV, Carplay, Macintosh, and HomePod. Prior to joining Apple in 2013, he spent 20 years at Microsoft Research managing teams in speech, audio, multimedia, computer vision, natural language processing, machine translation, machine learning, and information retrieval. His team at Microsoft Research built Bing Translator, worked on Xbox Kinect, and pioneered the use of deep learning in large vocabulary speech recognition. From 1991-1993 he managed the speech team for Spain's Telefonica. His first stint at Apple started in 1990. Alex received an engineering degree from the Polytechnic University of Madrid, a Masters from Rice University, and a PhD from Carnegie Mellon. He is Affiliate Faculty at the University of Washington. Dr. Acero is a Fellow of IEEE and ISCA. He received the 2017 Norbert Wiener Society Award and the 2013 Best Paper Award from the IEEE Signal Processing Society. Alex served as President of the IEEE Signal Processing Society and is currently a member of the IEEE Board of Directors. Alex is co-author of the textbook "Spoken Language Processing", over 250 technical papers and 150 US patents.

(RECEPTION FOLLOWING THE TALK)