



THE WEIZMANN INSTITUTE OF SCIENCE  
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Machine Learning and Statistics Seminar

,Ziskind Building  
on Wednesday, May 04, 2016  
at 11:15

Room 155

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Google

The Power of Initialization and a Dual View on Expressivity

Abstract:

We develop a general duality between neural networks and compositional kernels. We show that initial representations generated by common random initializations are sufficiently rich to express all functions in the dual kernel space. Hence, though the training objective is hard to optimize in the worst case, the initial weights form a good starting point for optimization. Our dual view also reveals a pragmatic and aesthetic perspective of neural networks and underscores their expressive power. Joint work with Roy Frostig and Yoram Singer