

YONSEI AI/Combinatorics Seminar

Research in Neural Networks Leads to New Combinatorial Identities

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To understand artificial neural networks we study the flow of signals on biological neural networks. If we use an external stimuli, like a sound, to force a network of neurons to fire signals, the feedback coming from the neurons will perpetuate the flow of signals. Can we predict if after 2 minutes a fixed neuron will still be firing without replicating the whole network? Using a mixture of topology and combinatorics we classified a family of cascades of signals. Among the consequences to our work are new identities of binomial coefficients and efficient algorithms to predict if particular neurons will fire after a fixed number of iterations.

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**[온라인 강연] 접속 방법은 추후 별도 공지.