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**Analysis of the Generalization Properties  
and the Function Spaces Associated with  
Two-Layer Neural Network Model**

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# Notation

Explain your symbols and abbreviations.





# Chapter 1

## Barron and Spectral norm

It is shown in the ? that function with one finite Fourier moment can be approximated with the superpositions of sigmoidal functions at a rate independent of the dimensionality  $d$ . In other words, for any functions in said space, *Fourier-analytic Barron spaces*, can be approximated with a (shallow) neural network at error rate  $\mathcal{O}(N^{-1})$ .

### 1.0.1 Barron function space and main result

We formulated the class of functions introduced in ?? below.

