

Networks and PDEs on the p-Adic FD Framework

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ABSTRACT

In the first part of the talk, we present an p-adic approach to neural networks that we have called p-adic cellular neural networks. These networks are mathematical generalizations of the classical cellular neural networks (CNNs) introduced by Chua and Yang. The cells of our networks are organized hierarchically in a rooted tree. A network with finite number of cells is called a p-adic discrete CNN, otherwise the network is called a p-adic continuous CNN. We also present visualizations of the behavior of our networks, which are an interesting tool to the study of such networks.