

Abstracts

A hierarchical neural network approach to the development of library of neural models for microwave design

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Neural networks recently gained attention as a fast and flexible vehicle to microwave modeling simulation and optimization. This paper addresses a new challenge in this area, i.e., development of libraries of microwave neural models. A hierarchical neural network framework is presented utilizing the knowledge of basic relationships common to all library components. The proposed method improves the reliability of neural models, while significantly reducing the cost of library development through reduced need for data collection and shortened time of training.

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