

Speech Production Using A Neural Network with a Cooperative Learning Mechanism

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Abstract: We propose a new neural network model and its learning algorithm. The proposed neural network consists of four layers - input, hidden, output and final output layers. The hidden and output layers are multiple. Using the proposed SICL(Spread Pattern Information and Cooperative Learning) algorithm, it is possible to learn analog data accurately and to obtain smooth outputs. Using this neural network, we have developed a speech production system consisting of a phonemic symbol production subsystem and a speech parameter production subsystem. We have succeeded in producing natural speech waves with high accuracy.