ABSTRACT

Concatenation synthesizer is a synthesizer that can produce automatic speech signal through the transcription of grapheme-to-phoneme for the spoken sentence. The concatenative synthesis is still become the easiest way the produce a high quality synthetic speech.

Research concatenation synthesizer in the Indonesian version was already developed, and has achieved satisfactory result. However, several problems in the research remain unsolved. In this final task, Hopfield Neural Network (HNN) is selected to realize the concatenation synthesizer model of prosody in the Indonesian language. Pitch Synchronous Overlap-Add (PSOLA) use to modify the signal speech.

The results showed the synthesis of intonation phrase is more prevalent than previous research. Fluidity MOS increased from 2.482353 to 2.81951. Intelligibity MOS increased from 2.082353 to 2.77526. Beside that naturalness MOS also keep from 3.258824 to 3.26143. From the test of Hopfield Neural Network get the best accuration is 100%. FD-PSOLA test get overlap 90% have more pitch countour and less drop signal at the point of junction if differentiated with other overlap. Overlap 1% to be the best point of junction for TD-PSOLA.

Keyword : Hopfield neural Network, generator prosody, concatenation synthesizer, Pitch Synchronous Overlap-Add.