Recent research on hardware neural network

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An artificial neural network (ANN) is a computational model inspired by neo-cortex of human brain that is capable of solving a variety of problems in recognition, prediction, optimization, and control. It can be also described as a network of synaptically connected neurons that can create, modify, and preserve information through sequential learning procedures. Recently, hardware implementation of artificial neural network called Hardware Neural Network (HNN) is gaining popularity due to its potential usability for industrial applications requiring recognition, optimization, and prediction using complex data sets. However, hardware implementing issues need to be solved for the widespread of HNN. In this presentation, I will summarize recent efforts of HNN implementations with pros and cons of each approach.

[Figure: EEG preprocessing pattern recognition.]

Recent Publications


Biography

Byung Geun Lee received the BS degree in Electrical Engineering from Korea University, Seoul, South Korea, in 2000 the MS and PhD degrees in Electrical and Computer Engineering from the University of Texas at Austin, in 2004 and 2007, respectively. From 2008 to 2010, he was a Senior Design Engineer at Qualcomm Inc., San Diego, CA, USA, where he had been involved in the development of mixed-signal ICs. Since 2010, he has been with the Gwangju Institute of Science and Technology. He is currently an associate professor with the school of electrical and computer science. His research interests include high-speed data converter, CMOS image sensor, and neuromorphic system developments.

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