

Is Pattern Recognition a Statistical Problem?

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Abstract:

Human beings effortlessly perform sophisticated pattern recognition tasks such as speech recognition, speaker recognition, signature matching, handwriting recognition, face recognition, etc. We have no simple way of dealing with these problems with the existing mathematical models, which are primarily based on the statistical methods. The answer to this dilemma lies in developing new models of computing, which are primarily motivated by our (though limited) understating of the structure and function of the biological neural networks. The objective of this talk is to justify the need for exploring new models of computing for the human pattern recognition tasks, using illustrations from speech and image processing tasks.