

	<p>Effat Jalaeian Zaferani:</p> <p>My name is E. Jalaeian Zaferani. I am from Iran. I was born in Jun, 1987, Mashhad, Spiritual capital of Iran. I received my Basic education in Tehran. After Entry Exam of Iran Universities, in 2005, I entered Shahed University, to study in Biomedical Engineering, majoring in bioelectric. After B.Sc. course, in 2009, I started to study M.Sc. in Biomedical Engineering, KNTU.</p>
<p>Research Interest:</p>	<ul style="list-style-type: none"> -Optimization Algorithms -Fuzzy Algorithms -Signal Processing -System Identification
<p>Thesis Title:</p>	<p>Desining a brain computer interface based on fuzzy systems</p>
<p>Abstract:</p> <p>In this thesis it has been trying to function fuzzy systems which are classified in four types of motor imaginary in Brain signals. The thoughts, feelings and even the mood of a person simply affect on his brain signals which Need a classifier that can model uncertainty and ambiguity in the brain signals. Used data from the Fourth International BCI Competition have been selected which are related to the left hand, right hand, feet, and tongue. Some feature extraction methods were applied on these data and by the PCA, GA and statistical methods dimensions were reduced and then proper features are selected. So, we found that statistical methods are preferred in feature selection because If statistical methods are unable to create data sets with high accuracy, The classifier is also likely to be unable to do this, either. In addition, linear combination of ANOVA and MANOVA could create high accuracy. Finally, type I of fuzzy classifier and type II of fuzzy interval were used to compare accuracy. Because of removing noise during recording data and also using the appropriate frequency range in BCI data, (mu and beta frequency band) the uncertainty related to the recorded signal is lost. But still there is another kind of uncertainty in classification. The results showed the interval type II fuzzy systems have greater ability to model this uncertainty. An optimization algorithm was also proposed to train fuzzy system parameters using advantages of global optimization algorithms and eliminating relate disadvantages.</p>	
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