عنوان مقاله:

Using Genetic Programming for Making a New Evolutionary Artwork, Based on Human-Computer Interactions for Autism Rehabilitation

محل انتشار:

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خلاصه مقاله:

In past two decades, a lot of mathematical problems have been solved by nature inspired algorithms like Genetic Algorithm (GA). But this mathematical structures could be colorful and beautiful like an artwork. Due to that Evolutionary Art (EA) was created and made a revolution in art, especially in visual art. Evolutionary Art (EA) is one of the most top topics in the field of Artificial Intelligence (AI) and computer science these days, and that is because of its nature inspired structure. Despite of its beauty in combining and shaping the colors, it could be used in medicine and rehabilitation. Autistic people need different methods of learnings and through evolutionary art, it is possible to learn and rehabilitate them. This paper first introduces an unsupervised evolutionary art structure or visual art using genetic algorithm and programming and two aesthetic measure as the fitness function (Global Contrast Factor and Information Theory). In the second step this visual artworks uses on 3 children with Autism Spectrum Disorder (ASD) to rehabilitate them. Positives and negatives results happened in the process, but more of them was successful. Results shows that, they have good react in bright and smooth colors and hate dark and sharp artworks. This subject is novel and hope to opens a way in human (autistic person)-computer rehabilitation era

کلمات کلیدی:

Genetic Algorithm (GA), Evolutionary Art (EA), Artificial Intelligence (AI), Aesthetic Measure, Information Theory, (Rehabilitation, Autism Spectrum Disorder (ASD

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