Evolving creative portrait painter programs using Darwinian techniques with an automatic fitness function

Author: DiPaola, Steve
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Abstract: We experiment with computer creativity by employing and modifying techniques from evolutionary computation to create a related family of abstract portrait painter programs. In evolutionary art, most systems evolve paintings by allowing the artist to selectively breed the artwork ‘by hand’ from a selection of the currently evolved population. Our system differs in that it uses an automatic ‘creative fitness function’ which allows the evolutionary process to run without stopping for ‘creative human intervention’. A recent type of Genetic Programming (GP) is used called Cartesian GP, which has several features that allow our system to favour creative solutions over optimized solutions.

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