

# An Evolutionary Approach for Generating 2D and 3D Fractal Art

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Research in evolutionary art explores mathematical models for systems that are able to evolve aesthetically pleasing and unpredictable computer artworks. This paper presents a genetic algorithm for evolving new shapes of fractals. We explore various representations of variable-length chromosomes for encoding 2D and 3D forms of fractal art using Iterated Function Systems (IFS). Measures from fractal theory, such as correlation dimension, are used to evaluate aesthetics of the evolved forms. In addition, the users are able to assign scores to various shapes according to their preference. We show that our approach can generate a large variety of complex and interesting art shapes.

## References

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