

1125-VK-1570 **Boyan Kostadinov*** (bkostadinov@citytech.cuny.edu), NYC College of Technology, 300 Jay Street, Mathematics Department, Brooklyn, NY 11201. *R is not only for Data Science: Visualizing Art Patterns Coded in R.*

We present several visualization projects, which we developed for our STEM students interested in coding. The projects are designed to mix programming, mathematics and experimentation, and engage students' creativity by appealing to their artistic side for creating art patterns inspired by mathematics. The mathematics behind the projects makes use of finite weighted sums of complex exponentials, out of phase logarithmic spirals to visualize galactic arms in spiral galaxies, 2D and interactive 3D Lissajous figures, the Mandelbrot set and other fractal systems, and contour projections of 2D surfaces superimposed over their own heat-maps for creating complex art patterns. All projects are designed to be implemented in 10-20 lines of vectorized code, using the high-level, open-source, free programming language R, a popular software in industry and academia for doing data science. We hope that familiarity with R could improve students' chances of getting internships and full-time jobs. These projects were created for the "Code in R" program that we developed at City Tech, CUNY, supported by a MSEIP Grant P120A150063 from the Department of Education. (Received September 18, 2016)