Generalized Geometric Cubic Splines
King Fahd University of Petroleum & Minerals
http://www.kfupm.edu.sa

Summary

A constructive approach has been adopted to build interpolatory and freeform cubic spline curves with a more general continuity than $C^1$-continuity. This method provides not only a large variety of very interesting shape controls like biased, point and interval tensions but, as a special case, also recovers a number of spline methods like $C^1$-spline of G.M. Nielson (1974), $C^2$-splines, $C^3$-splines of W. Boehm (1995) and weighted $C^2$-splines. A discussion, for the conversion of complex continuity constraints into simple ones, has also been made for the practical implementation point of view

For pre-prints please write to: abstracts@kfupm.edu.sa