

**Shape Preserving Linear Interpolation  
(SPLINT)**

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**ABSTRACT**

Linear interpolation has largely been dismissed as a method for performing image transformations because of the side-effects it can have on the synthesised images. These side-effects are due to the non-monotonicity inherent in linear interpolative systems. Shape blending is an intrinsic part of image metamorphosis, because as irregularly shaped objects move, their silhouettes (or shapes) change also. A new shape preserving linear interpolation (SPLINT) system is introduced. SPLINT is an improvement over traditional linear interpolation techniques, allowing all affine transformations to be performed without the expansion and contraction of the intermediate images, that is typical in standard techniques. As well as maintaining the shapes of objects during the affine transformations, the examples used to test SPLINT illustrate how movement can be simulated by shape blending.