

# **Perception-Driven Black-and-White Drawings and Caricatures**

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UUCS-02-002

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January 22, 2002

## ***Abstract***

In this paper, we present a method for automatically creating black-and-white drawings of human faces from photographs. We then demonstrate new techniques for deforming these drawings to create caricatures intended to highlight and exaggerate facial features. A number of psychophysical studies were performed that show that both the black-and-white drawings and the caricatures generated using our techniques have similar effectiveness as photographs in recognition tasks, and perform better than photos in learning tasks. Our methods are useful for a number of potential applications, ranging from forensics to telecommunications and from cartoons to education and psychology research.