Team members:
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Paper: Controllable Artistic Text Style Transfer via Shape-Matching GAN. ICCV, 2019.

Proposal:
Style transfer images or Artistic text have been used widely in advertisement and entertainment applications. Some previous literature focused on the scale of textures like the texture strength, or the size of texture patterns, but overlooked crucial elements such as glyph deformation. Yang et al. apply a novel bidirectional shape matching framework to address a challenge that the stylistic degree in terms of shape deformation is uncontrollable. In addition, there has been no work about the real-time control of glyph deformations. Yang et al. implement a real-time text style transfer algorithm using Shape-Matching GAN, and demonstrates its superiority over the previous state-of-the-art in generating diverse, controllable, and high-quality stylized text.

Our project would be divided into 3 steps. The first step is to get a deep understanding of the algorithm via the authors' open-source code. The second step is to reproduce the result in Yang's paper on the dataset containing Chinese characters, Arabic numerals, and English letters. Finally, we will try the algorithm on some real-world texture images, or conduct some analysis with relevant related work.

Reference:
Yang, Shuai, et al. "Controllable artistic text style transfer via shape-matching gan." *Proceedings of the IEEE/CVF International Conference on Computer Vision*. 2019.