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Spring-2017

Big Data Analytics Project Proposal

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**2. Project Goal and Objectives**

**2.1 Motivations**

Filters on images has become a new swing. There are numerous applications in this field. Adding the flavors of the authentic artistic designs and paintings to the existing images is captivating. Hence, we are designing an application to apply different artistic styles and designs to an image.

**2.2 Significance/Uniqueness**

There are ample applications that offer various filters. But there are very few apps that provide artistic designs and sketches that can be applied to an image and we are in process of extending the images to the videos such that these styles can be applied to the entire video.

**2.3 Objectives**

The objective is to design an application with an interactive GUI where the user can select artistic design and apply its style his existing photo. We are planning to extend our application by real-time visualizer, which can see the artistic styles in real time.

**2.4 System Features**

* The user can select required artistic style in real time before capturing the image.
* The user can select an existing image and apply different artistic styles.
* Extending the same concept by applying the designs and styles to the videos.

**3. Related Work**

* **Prisma:** This is an app where artistic style transfer using neural nets is performed on user data to create rich artistic content .
* **Paper Link**: <https://arxiv.org/abs/1604.08610>

**4. Backup Project**

* **Image generation using cnn and rnn:** Image generation from text using RNN and CNN algorithms. The user can give few tags as an input an image will be generated based on the given input tags.
* **Image captioning using cnn and rnn:** The user can give an image url as an input which is fed to RNN and CNN algorithm which gives related tags as an input.

**5. Bibliography**

* Artistic style transfer for videos [Manuel Ruder](https://arxiv.org/find/cs/1/au:+Ruder_M/0/1/0/all/0/1), [Alexey Dosovitskiy](https://arxiv.org/find/cs/1/au:+Dosovitskiy_A/0/1/0/all/0/1), [Thomas Brox](https://arxiv.org/find/cs/1/au:+Brox_T/0/1/0/all/0/1) (Submitted on 28 Apr 2016 ([v1](https://arxiv.org/abs/1604.08610v1)), last revised 19 Oct 2016 (this version, v2)) .
* ImageNet Classification with Deep Convolutional Neural Networks Alex Krizhevsky University of Ilya Sutskever Geoffrey E. Hinton .