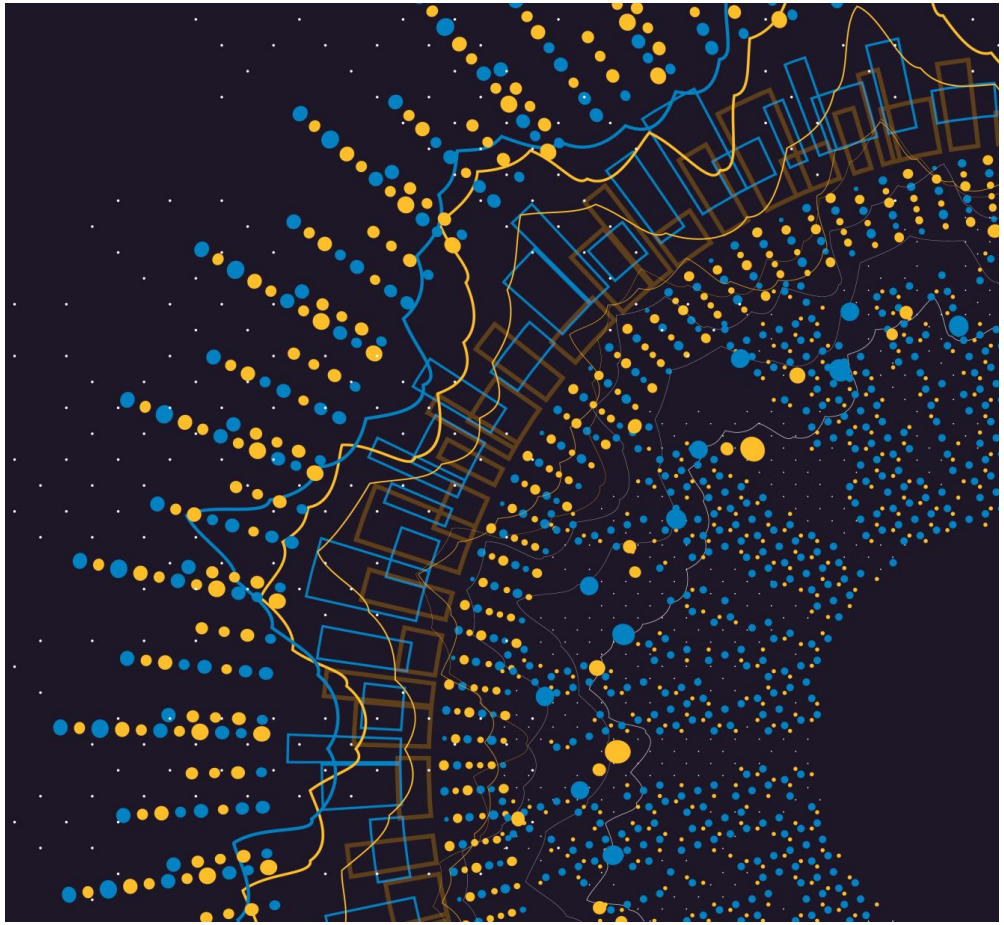
DS 5500 - Capstone Project: Applications in Data Science



Text to Image Translation

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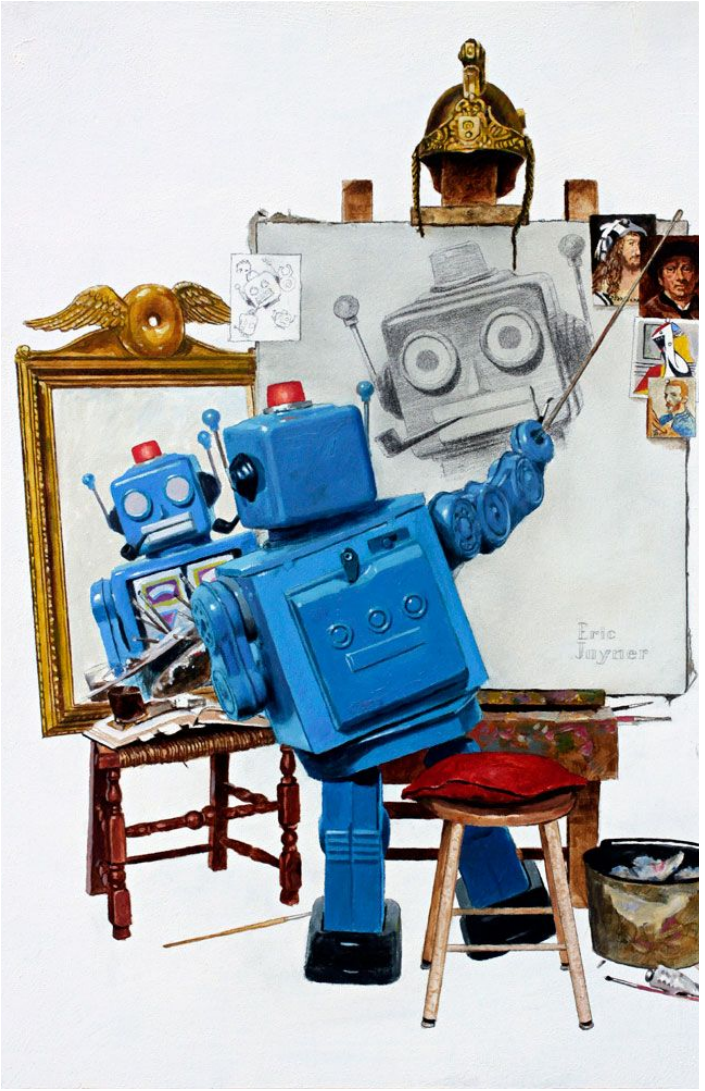
-AVEEK CHOUDHURY

-HARSHITA VED

"I'm just doing this temporarily.Our usual police artist is off sick."



Motivation

What if a computer can generate realistic images in few seconds by just giving simple textual descriptions ?

Dataset

Oxford-102 dataset of flower images having 8,189 images of flowers from 102 different categories.

CUB contains 200 bird species with 11,788 images.

Common Objects in Context (COCO) contains 330K images of everyday objects captured from everyday scenes.

1. **the petals are long and purple, and oval shaped on the tips.**
2. this flower is pink in color, with petals that are oval shaped.
3. long pink slender petals with a light and dark purple and yellow pistil.
4. the flower has purple petals surrounding its yellow anther and blue filament
5. the flower has long elongated petals, with yellow anthers in the center.
6. a light velvet large flower with a purple golden center.
7. this flower has a single layer of small oblong purple petals.
8. this flower has petals that are pink and has yellow stigma
9. **the bright pink petals of this flower have a pointed edge, which is rounded, and surround a group of short stamen that are topped with bright pink antenna.**
10. the flat, pink petals form a disk around stamen with golden colored anther.

A woman standing next to a man on top of a ski slope

A bus parks close to a truck in front of a church

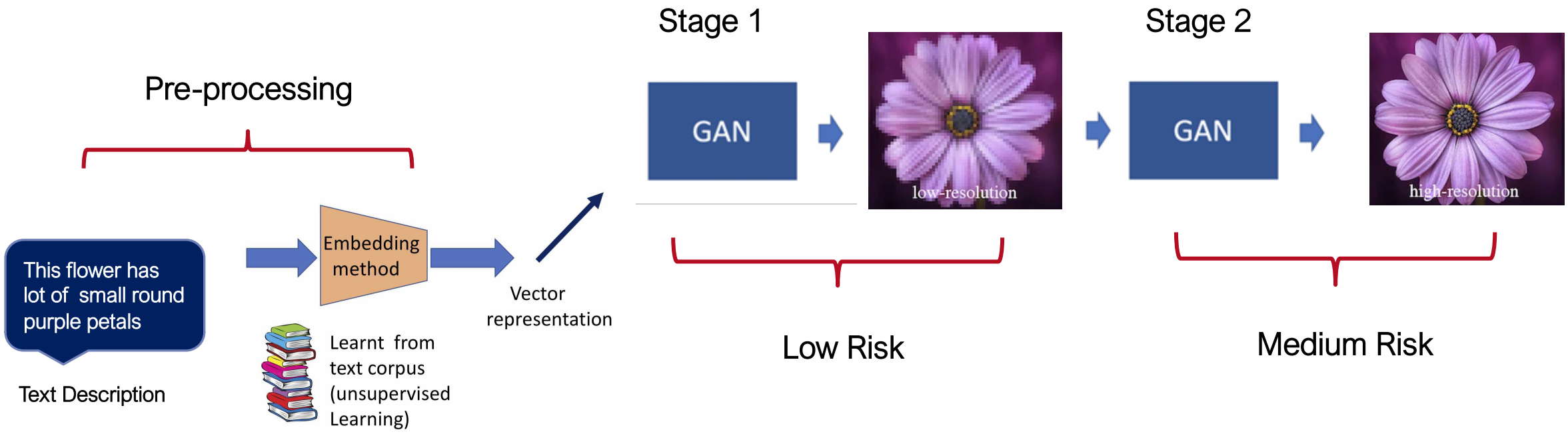
Bunch of cows walking through the grass behind a car

Objective / Goals

Algorithmic development	Computational limitation	Visual realism	Semantic consistency

- Single domain learnings
- Low resolution output *(64x64)*
- End-to-end flow

- Improve resolution
- Expand domain
- REST service for neural model

- Application on a wider dataset, e.g., MS-Coco
- Platform for end - user

Methodology