Sketch2Landscape

https://github.com/Pmk2021/Sketch2Landscape

Pranav Muralikrishnan
UCTECH High School

Berkeley College
Hackathon

Python Program Using the Pix2Pix Algorithm

- **Paper:** “Image to Image Translation with Conditional Adversarial Nets” by AI Research Lab, UC Berkely
- **Method:** Transforms one image into another using Neural Networks
- **Language/Tools:** Written using Python and Pytorch

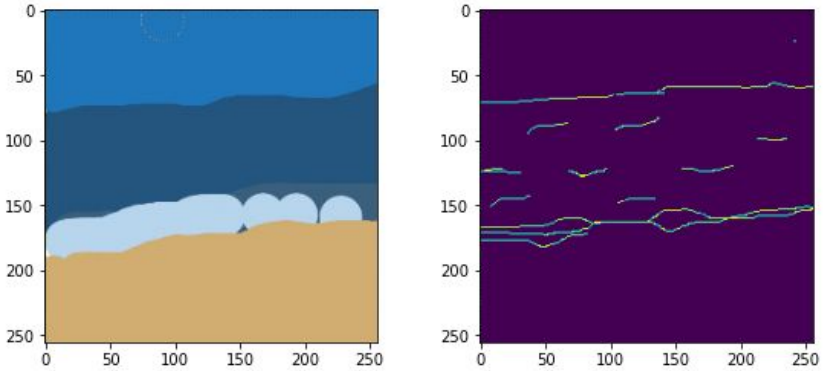
The Program

Create.py

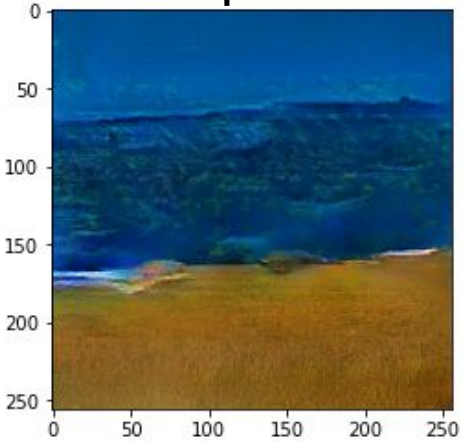
- **Inputs:** Rudimentary sketch of landscape and loosely colored version
- **Process:** The trained model uses both the inputs to identify the shape and content of the image(e.g., Grass vs Water)
- **Output:** Returns a rendered version of the predicted landscape

Example 1

Inputs

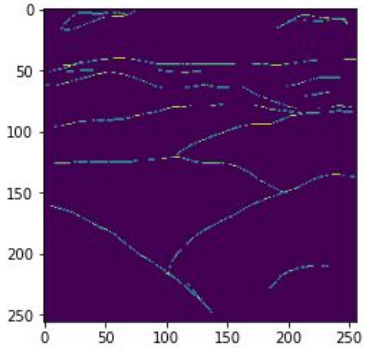


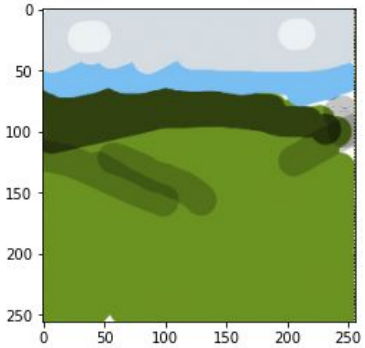
Output



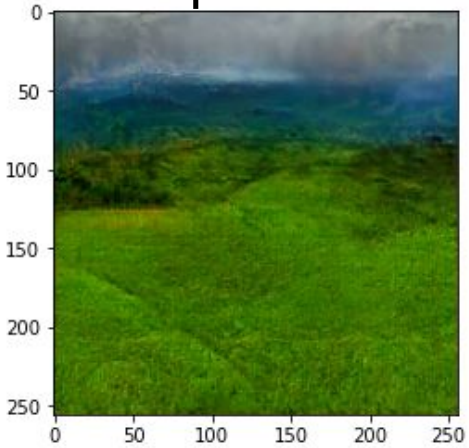
Example 2

Inputs



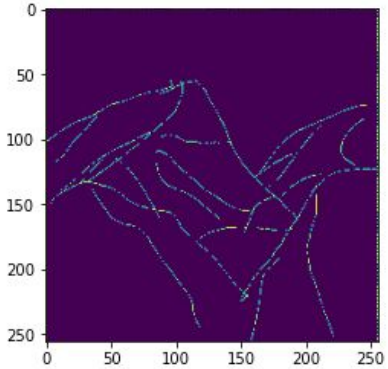


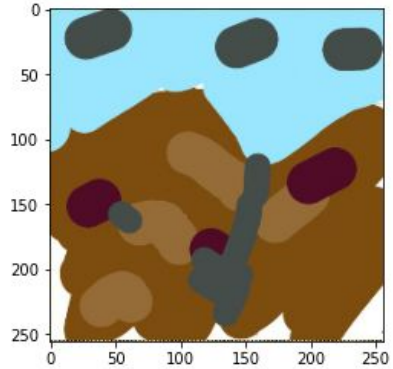
Output



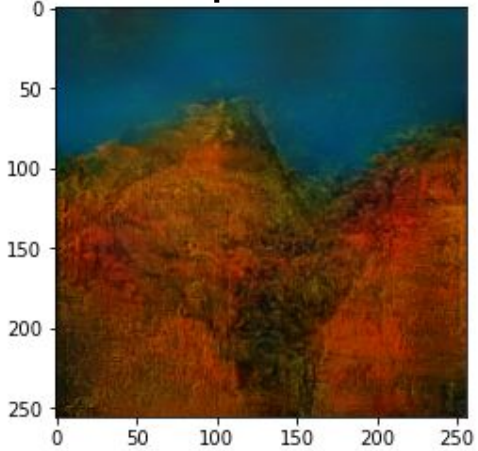
Example 3

Inputs





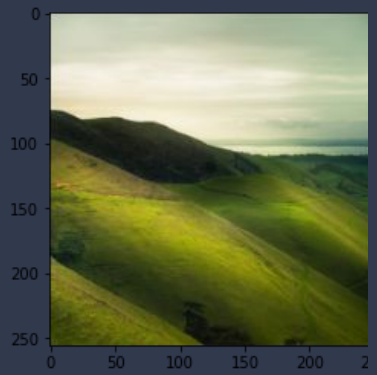
Output



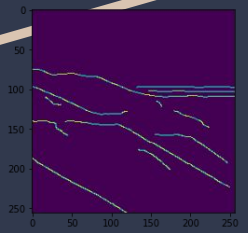
Training the Model

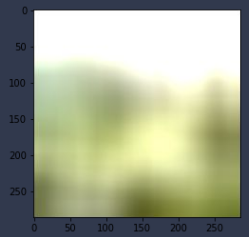
pix2pix_landscape_Train.ipynb

Sample Image:



Program Processed Images:





- **Program:** Preprocess and trains the model
- **Methodology:** The program was run for ~12 hours and fed it with 1200 sample images. From which it extracted a blurred version and outlined version.
- **Accuracy:** The model is able to correctly identify components of image, but quality could improve given more time to train.

Who Can Use This?

- **Create Illustrations:** Users who require illustrations but are unable to find them or create them on their own.

- **Other Applications:** Can likely be repurposed to work on other categories such as vehicles, houses, and animals.

Thank You

Pranav Muralikrishnan

https://github.com/Pmk2021/Sketch2Landscape