Weekly Report （5.26-6.01）

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1. Task Description
   1. Try openai gym project.
   2. Try openai universe project.
2. Task Progress
   1. Try openai gym project.

It is pretty stright forward to use the gym and make it run, since what we need is only a python environment in Linux platform (windows is not offically supported and can have some unpleasant results).

Some screen shots are listed below:

* 1. Try openai universe project

The results are shown in part 3 -- existing solutions.

1. Existed Main Problems and Solutions

There are three main fields about the intend project:

1. Physics Simulations, like Bullet, Havok, MuJoCo, ODE and PhysX, etc
2. Game Engines, like Unity3D, Unreal, cocos2d-x, godot and so on
3. Closed Games with API for developer, like GTA V

The first one can be part of the second one, and for synthesis images the second and third can be more appealing since they provide abundant images of various types.

1. Working Plan for Next Week

Try some of the physics simulations and game engines, the prospective ones are MuJoCo, Unreal and GTA V.

REFERENCES

Since most of my references are links on the internet, I just list the links instead of use the more official cite format.

1. Using Virtual Worlds, Specifically GTA5, to Learn Distance to Stop Signs, <http://orfe.princeton.edu/~alaink/SmartDrivingCars/DeepLearning/GTAV_TRB_Final.pdf>
2. Learning Physical Intuition of Block Towers by Example, <https://arxiv.org/pdf/1603.01312.pdf>
3. Games engines, <https://github.com/showcases/game-engines>
4. MuJoCo, <http://www.mujoco.org/index.html>
5. OpenAI, <https://openai.com/>
6. OpenAI gym, <https://github.com/openai/gym>
7. UETorch , <https://github.com/facebook/UETorch>
8. DeepGTAV , <https://github.com/ai-tor/DeepGTAV>
9. synthetic-computer-vision , <https://github.com/unrealcv/synthetic-computer-vision>
10. unrealcv , <https://github.com/unrealcv/unrealcv>
11. udacity/self-driving-car, <https://github.com/udacity/self-driving-car>