**Design of intelligent non-player character in games**

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1. Introduction

1 Introduction:

This project is mean to build a AI model for game’s non-player-character (NPC).

Unity + ml-agent is this project’s main development tools, the reason I choose them is that, Unity is the most mainstream game editor in the world now, it can build many complex scenes include nice physic simulation, simple way to import 3D-model etc. //TODO add a picture. it’s a very good editor to build the reinforcement learning scene. And ml-agent offer a simple but powerful tool for the programmer to use the reinforcement learning to train the model. It’s using PPO, the latest release of OPENAI’s reinforcement algorithm.

development environment set up:

Download:

Unity 2017.4+

Visual Studio or other IDE for Unity scripting

[ml-agent](https://github.com/Unity-Technologies/ml-agents) project’s clone

python 3.6

TensorFlowSharp for Unity

Then you should get to the directory use this command to download dependency.

cd ml-agents-envs

pip3 instal l -e ./

cd ..

cd ml-agents

pip3 install -e ./

When finish downloading, it’s depended on you want to create your own project or just create train scene base on UnitySDK project inside ml-agents, it’s contained many samples with pretrain model and scene of many kind of train circumstances including multi-brain training, visual observer training etc.

There is also a detailed [installation guide](https://github.com/Unity-Technologies/ml-agents/blob/master/docs/Installation.md) include in the project.