

Chess with Deep Reinforcement Learning: Installation Manual

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1 Requirements

1.1 The system

- An Nvidia GPU with at least 3GB of VRAM
- A good CPU that can handle the MCTS algorithm
- At least 5GB of free RAM

1.2 Python packages (for local/non-dockerized use)

1. Install the latest version of Python (I used Python 3.10).
2. In a terminal, run the following commands:

```
1 python3 -m pip install pip --upgrade
2 python3 -m pip install -r requirements.client.text
3 python3 -m pip install -r requirements.server.text
```

1.3 Docker

The software comes with two Docker images and a docker-compose file. This is used to create a training set using self-play. To make sure the GPU can be used inside the server's Docker container, follow these instructions to install Docker and the Docker utility engine:

<https://docs.nvidia.com/ai-enterprise/deployment-guide/dg-docker.html>

Using these images, it is possible to deploy a whole cluster of servers and clients, to create a training set in parallel.