

Title : Bot Development for Playing Pokémon Battles by Using Data Analysis

Author(s) :

1. Paratthakon Ainun	Student ID : 640510699
2. Phuri Ounjanum	Student ID : 640510703
3. Manassanan Chuenpiriyanon	Student ID : 640510704

Major : Data Science

Advisor(s) :

1. Dr.	Thapanapong Rukkanchanunt
2. Associate Professor Dr.	Jakramate Bootkrajang

Type of presentation* (choose 1) :

<input type="checkbox"/>	Oral Presentation	(เฉพาะ ตัวแทนศ.ที่สาขาเลือกให้นำเสนอแบบบรรยาย)
<input checked="" type="checkbox"/>	Poster	(กรณี นำเสนอผลงานปัญหาพิเศษ/การค้นคว้าอิสระ)
<input type="checkbox"/>	Cooperative Education	(กรณี นำเสนอผลงานสหกิจศึกษา)

ABSTRACT

This research aims to develop a model using Reinforcement Learning (RL) technique to play Pokémon Battles, which are highly complex, especially under the VGC 2024 Regulation H competition rules. These rules are used in the Pokémon World Championships 2024 and involve a large state space and randomness in various situations that occur during the battle. This research applies a few algorithms from RL to the model, in order to discover the best model that can learn from different environments during the battle and decide to make appropriate decisions in each situation. The model is designed to focus only on choosing actions in the battle phase and the team selection process. The performance test of the model is conducted by comparing it with 3 types of bots: RandomPlayer, which selects actions randomly; MaxdamagePlayer, which chooses the highest damage move; SmartBot, which selects actions according to the set conditions. The evaluation is based on the model's win rate when competing with these three types of bots. The results of this research are expected to help understand the potential of RL in developing the model for Pokémon Battles and can be applied to decision-making systems in other strategic games.

*Type of presentation must be matched with an option you choosing on student upload system.

**The abstract can be more than one page and must be approved by project advisor before upload.