T-Rex Dino using CNN

Course Name: COMP841 Practical AI

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T-Rex Dino using CNN

- T-Rex dino developed in this project is a prediction based sequential model.
- In this AI system, we teach T-Rex Dino to dodge obstacles in 3 stages.
- Stages:
    1. getdata
    2. train
    3. play

Theoretical Background

Concepts used: CNN, Keras and Sklearn

- To train a CNN model to play the game, we use convolutional, pooling and fully connected(dense) layers.
- Label Encoding and One Hot Encoding techniques are also used.

Approach

- Major modules and libraries used:
  - keras
  - sklearn
  - keyboard
  - PIL
  - mss

Methods used:

- In training the CNN model, Label Encoding and One Hot Encoding are used to get the binary values for the keyboard actions(UP, DOWN and RIGHT).
- **fit()** method trains the model for a fixed number of epochs(iterations on dataset).
- We can add layers to CNN by calling **add** and passing the type of layer.
- In testing the CNN model, argmax function is used to get the probability of the action.

Evaluation

- Accessbility and Accountability
- Technical Safety and Privacy
- AI Performance
- Accuracy