

PAC-MAN: GHOST BEHAVIOUR ANALYSIS

The Ghosts in Pac-Man may all seem to just have the same general behavior of “chase Pac-Man” but they all achieve this in different ways. After all, if all the ghosts had the same AI then it would not explain why they all take different paths to each the player despite spawning from the same area.

Red Ghost/Blinky:

Blinky has the most aggressive pathfinding, as his target is where the player currently is and attempts to find a path directly to the player as soon as the game begins. He also gets sent to the top right corner of the screen to circle around when Pac-Man eats a power pellet.

Blue Ghost/Inky:

Inky does not leave the ghost spawn area until the player has eaten a couple of pellets, then starts chasing the player once this number of pellets is reached. His pathfinding considers both Blinky and the player's position, taking the direction the player is going and drawing a vector from Blinky's position to the tile in front of the player, then doubling it. This type of behavior makes it so that Blinky and Inky seem to make attempts at “cutting off” front and back of the player. Inky is sent to the bottom right corner when Pac-Man eats a power pellet.

Pink Ghost/Pinky:

Pinky follows right after Blinky and leaves the ghost spawn area immediately after Blinky leaves the entrance. Pinky looks at the tile four tiles ahead of the player and attempts to pathfind where the player will be at that point. Because of this, if the player does not turn often Pinky may very quickly catch up and block the player off if they make use of the long straight areas too often. Pinky is sent to the top left of the screen when Pac-Man eats a power pellet.

Orange Ghost/Clyde:

Clyde does not leave the ghost spawn area until about a third of the dots onscreen have been eaten by the player. His pathfinding is twofold, chasing the player like Blinky does when he is far away from the player, but once he gets too close he “retreats” back to the bottom left corner of the screen (this is also where he goes when Pac-Man eats a power pellet) until he is far enough away from the player. Because of this behavior, the bottom left corner of the screen is the most dangerous place to encounter Clyde as he will roam this area regardless of running away or chasing the player.