



make it sparse

range -100 +100

sparse representation

## MarioAI: Encoding altogether, Mapping

### Creatures [1,100)

special

|               |    |
|---------------|----|
| winged spiky  | 99 |
| winged koopa  | 97 |
| winged goomba | 95 |
| spiky         | 93 |
| spiky flower  | 91 |

harmful

|        |    |
|--------|----|
| bullet | 84 |
| koopa  | 82 |
| GOOMBA | 80 |

friendly

|                            |   |
|----------------------------|---|
| friendly flower (power up) | 3 |
| mushroom                   | 2 |
| coin                       | 1 |
| princess (level finish)    | 5 |

0, neither obstacle, nor creature

### Obstacles (-100, -1)

breakable

brick -20

unbreakable

passable from below -40

not passable

spiky flower pot -90

cannon -80