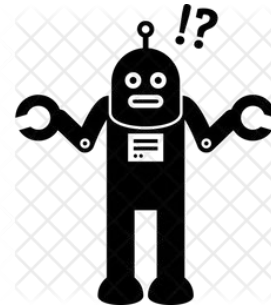# Intent Classification Using GPT-4

Andrew Wang

The Problem

- Natural Language is messy
- Robots require precise instructions

The Solution

- GPT-4 for Intent Classification and Slot Filing
- "Fine tuning" preamble for classifier
    - Ex 17: cozmo move over there to 3 => Pilot to Cube-3
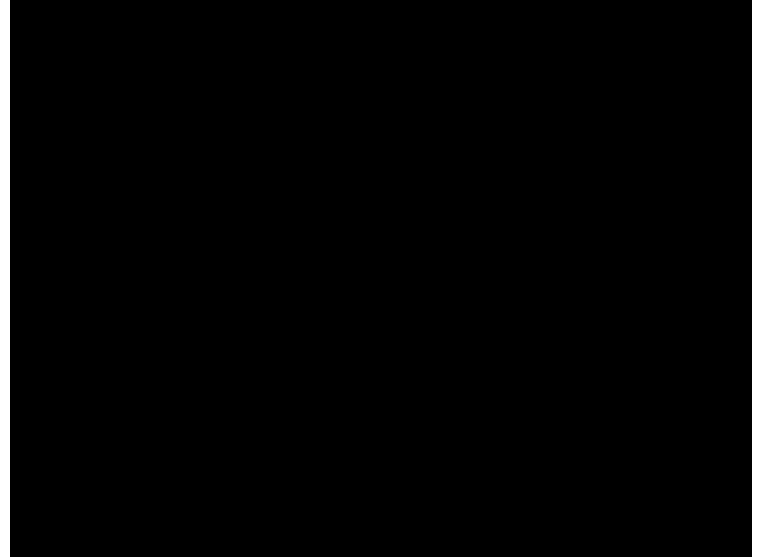- Streaming Cozmo's world map into premise

Interesting Things About Solution

- GPT-4 handles Slot Filing as well as Intent Classification
- Checks if command is information query if no match
- GPT-4 return info exactly in the format you give

Results

- Intent Classification & Slot Filing
  - 1. Move forward (integer) units
  - 2. Turn (integer) degrees to the (left/right)
  - 3. Pick up Cube (1-3)
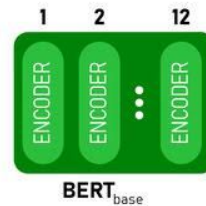 - 4. Go to Cube (1-3)

What worked? What didn't?

- Worked
    - Prompt Engineering for Slot Filing
    - Intent Classification
    - Response Formatting

- Didn't Work
    - BERT (doesn't handle slot filing)
    - Query Identification
    - Cozmo Speech

1 2 12

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BERT$_{base}$

Project Extensions

- Additional Commands
  - Go through door
  - Stack cubes
- Failure Handling
  - i.e. Cube-5