

ARICOMMA

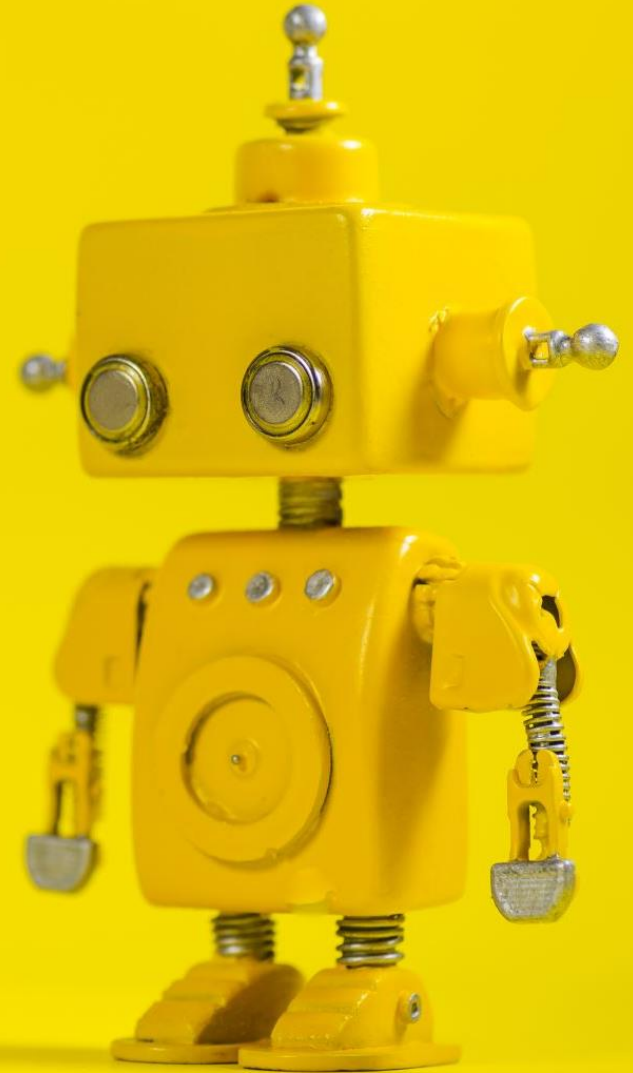
# Human-Ready AI

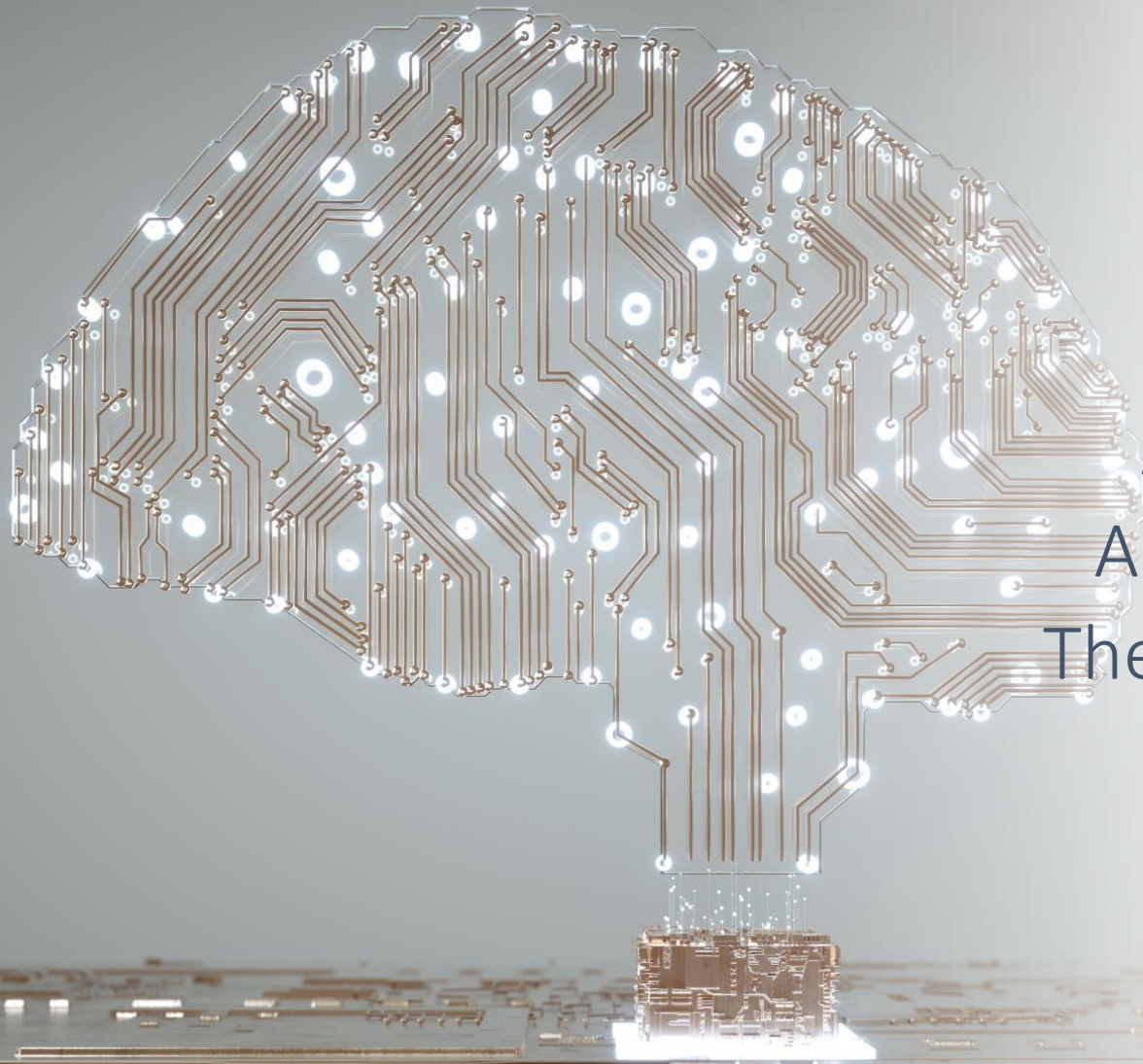
RNDr. Daniel Buchta, PhD.

Quantum Solutions Officer

11. June 2024

Artificial Intelligence



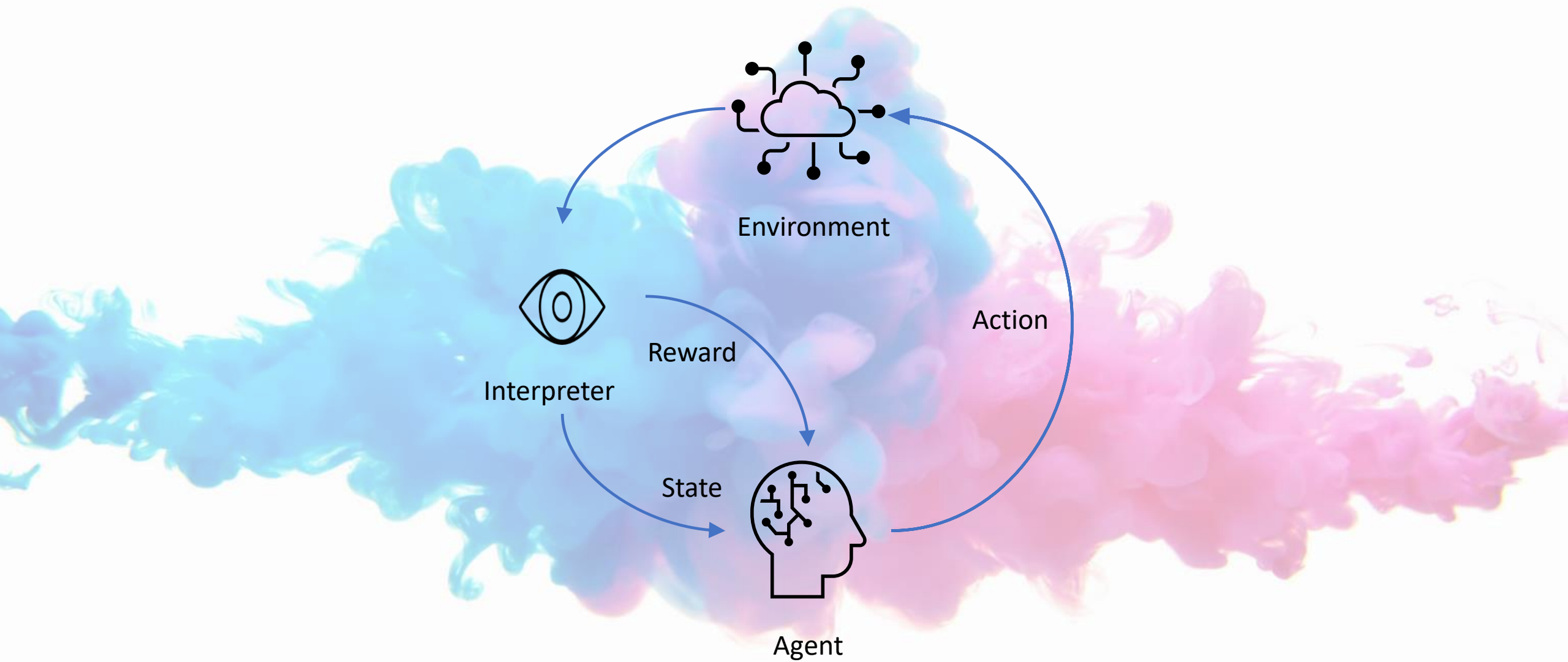


Artificial Intelligence  
Ars facere inter elegere  
The art of making a choice



“All happy families are alike;  
each unhappy family is  
unhappy in its own way.”

Lev Tolstoj, Anna Karenina



## s – Discrete states

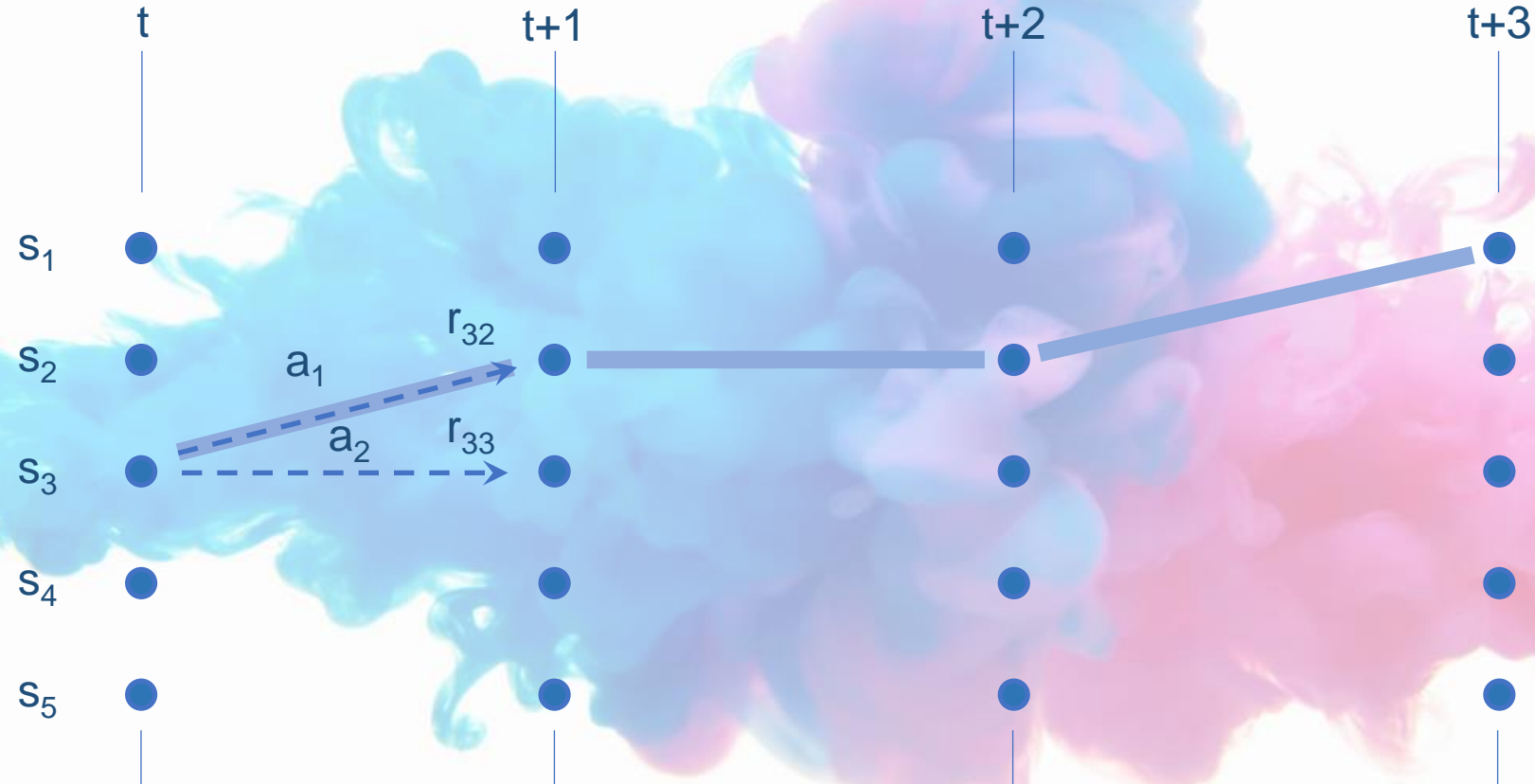
Initial set configured, potential evolution to personalities based on AI Models

## a – Actions resp. to events

Responding to specific events or sets of events. Action hypothesis can be tested on model.

## r – Reward for taking an action

Based on real-world value, configurable to achieve a balance between short term and long-term goals.



Ako sa budem mať

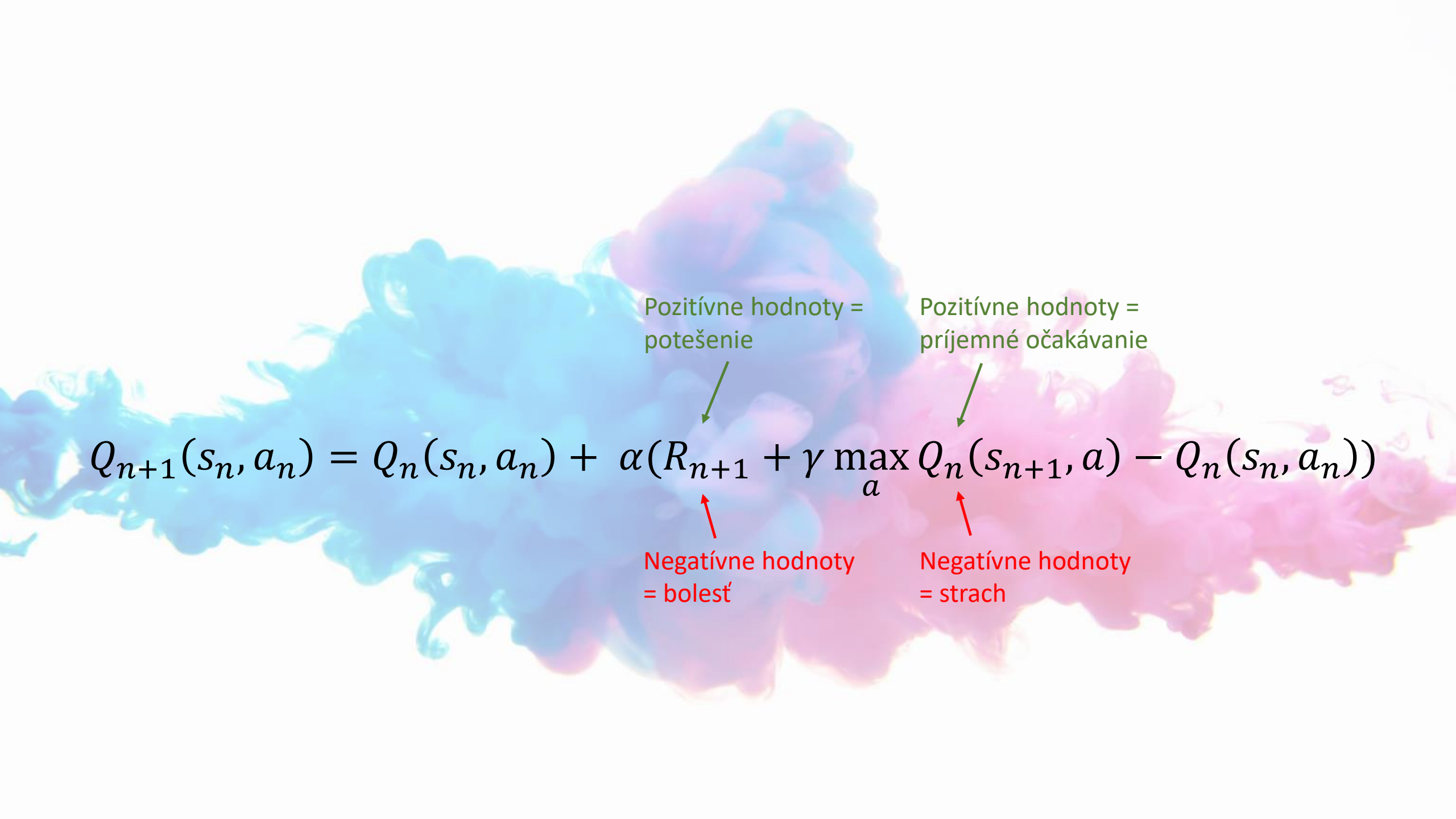
Ako sa mám

Čo tým získam

Čo sa pri tom naučím

$$Q_{n+1}(s_n, a_n) = Q_n(s_n, a_n) + \alpha(R_{n+1} + \gamma \max_a Q_n(s_{n+1}, a) - Q_n(s_n, a_n))$$

Akú mám chuť s tým  
niečo urobiť


$$Q_{n+1}(s_n, a_n) = Q_n(s_n, a_n) + \alpha(R_{n+1} + \gamma \max_a Q_n(s_{n+1}, a) - Q_n(s_n, a_n))$$

Pozitívne hodnoty =  
potešenie

Pozitívne hodnoty =  
prijemné očakávanie

Negatívne hodnoty  
= bolesť

Negatívne hodnoty  
= strach



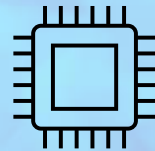
Funkcia(param1,...)

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-----

Return result



{"result": "-----"}

Prompt: "-----

-----

-----param1---

-----"



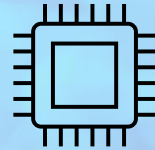
{"answer": "-----"}

Funkcia(param1,...)

-----

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Return result



{"result": "-----"}

Prompt: "—Napíš  
program  
Funkcia(param1,...)  
ktorý vráti  
result"



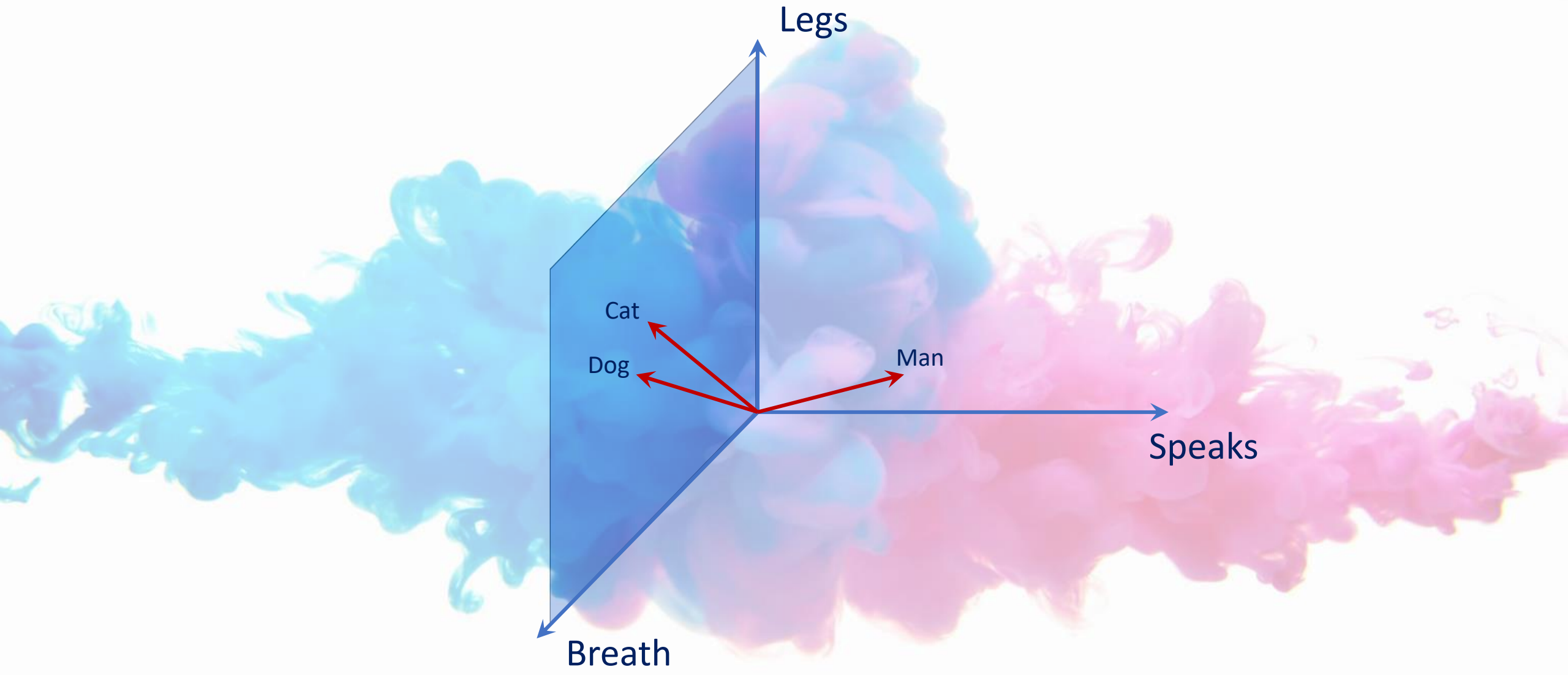
{"answer": "  
Funkcia(param1,...)

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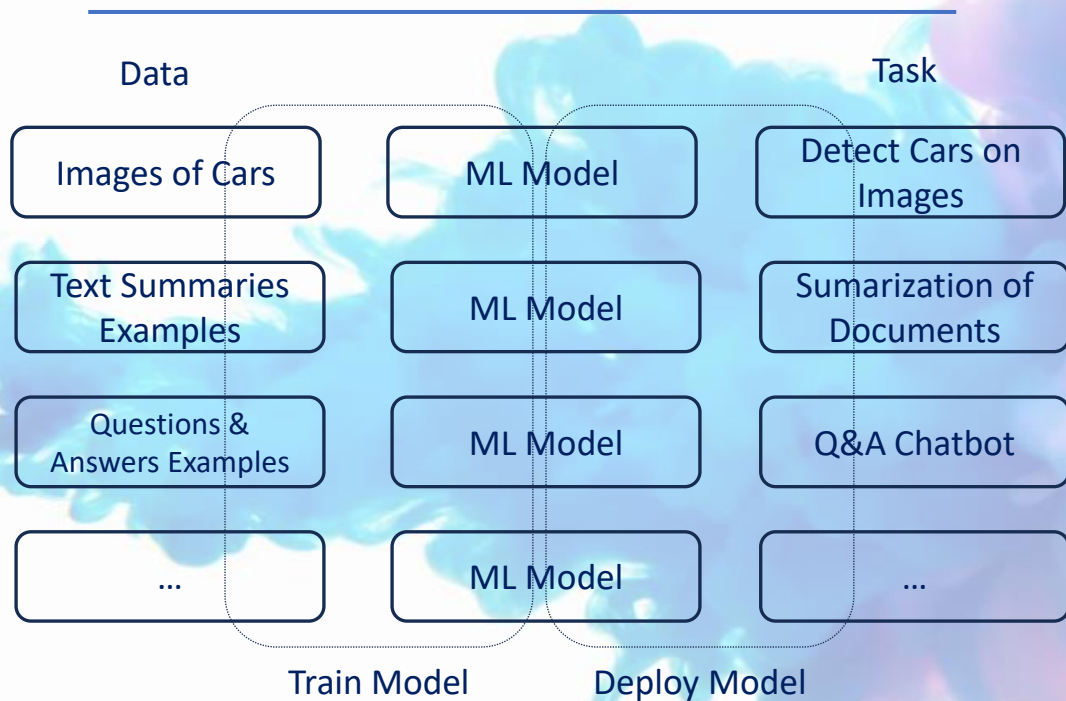
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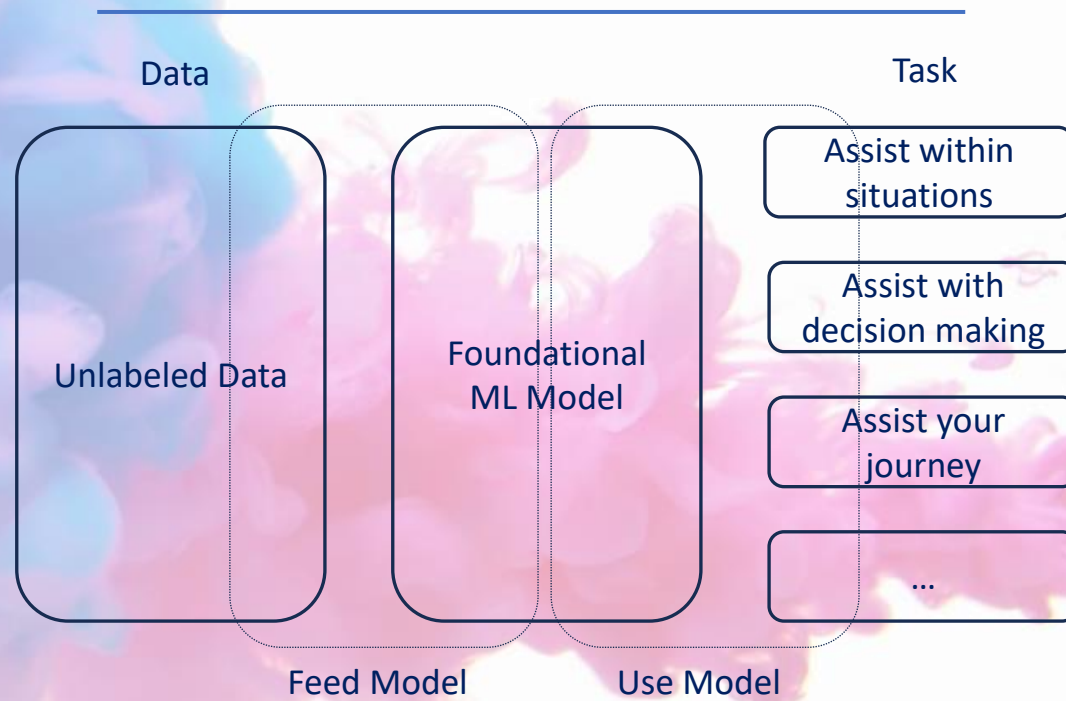
Return result"}}



Traditional Approach  
(a model for each task)



Generative AI Approach  
(foundational model)



Attention Is All You  
Need



# Is GPT-4 a Good Data Analyst?

| Annotator | Samples | Figure      |            |            |          | Data Analysis |            |           |         |          |
|-----------|---------|-------------|------------|------------|----------|---------------|------------|-----------|---------|----------|
|           |         | Correctness | Chart Type | Aesthetics | Time (s) | Correctness   | Complexity | Alignment | Fluency | Time (s) |
| Senior    | 30      | 0.79        | 0.96       | 2.96       | 472      | 0.98          | 2.01       | 0.98      | 2.98    | 324      |
| GPT-4     |         | 0.73        |            | 2.41       |          | 0.82          |            |           |         |          |
| Junior    | 30      | 0.66        | 0.96       | 2.66       | 645      | 0.95          | 1.98       | 0.86      | 3.00    | 388      |
| GPT-4     |         | 0.71        |            | 2.75       |          | 0.94          |            |           |         |          |
| Intern    | 40      | 0.74        | 0.91       | 2.40       | 648      | 0.86          | 1.59       | 1.00      | 3.00    | 173      |
| GPT-4     |         | 0.73        |            | 2.45       |          | 0.91          |            |           |         |          |

Table 4: Overall comparison between several senior/junior/intern data analysts and GPT-4 on 100 random examples in total. Time spent is shown in seconds (s).

From expedition  
climbing to alpine style

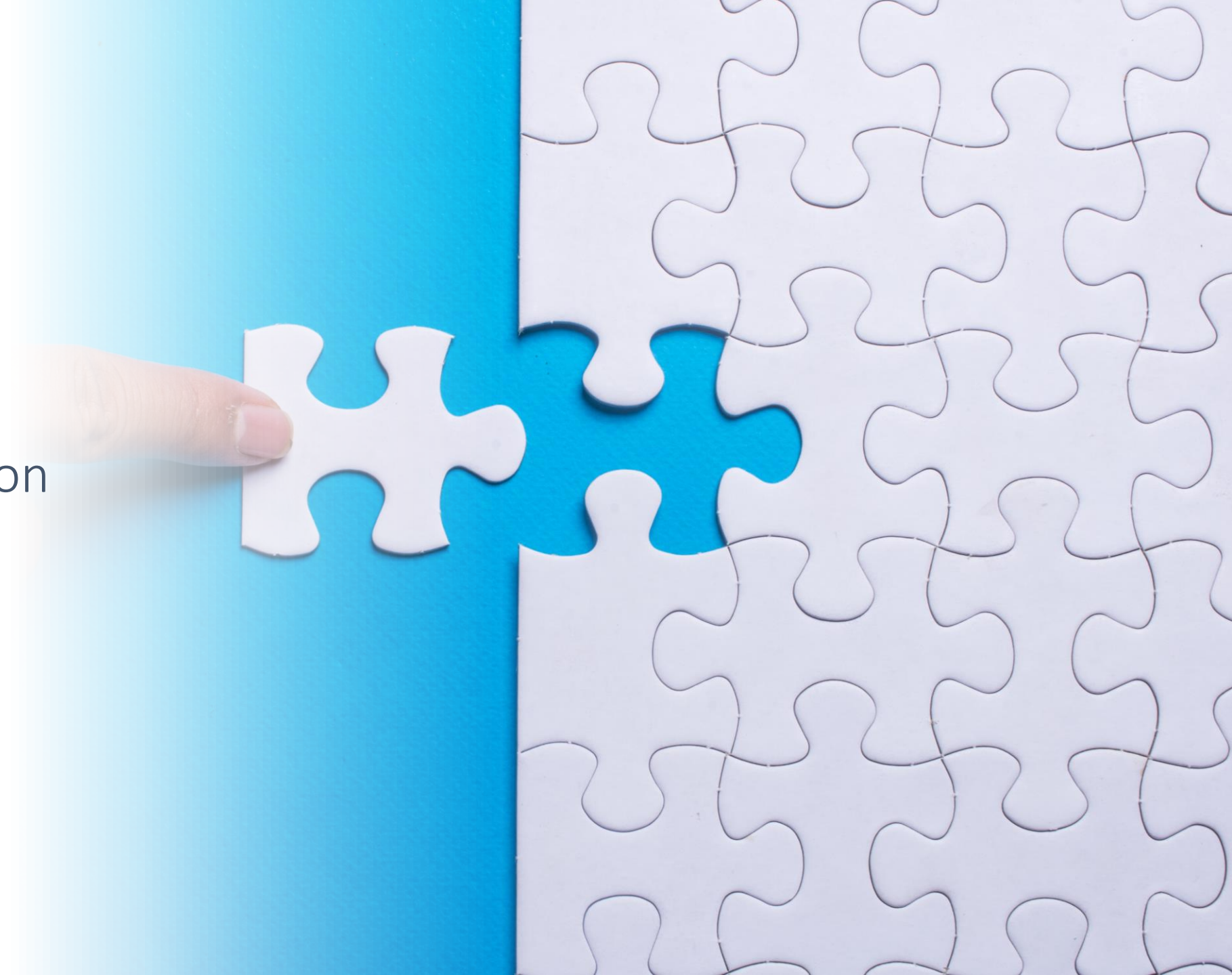




# Decision Making & Revenue Sharing



Assisted Decision  
Making



### s – Discrete states

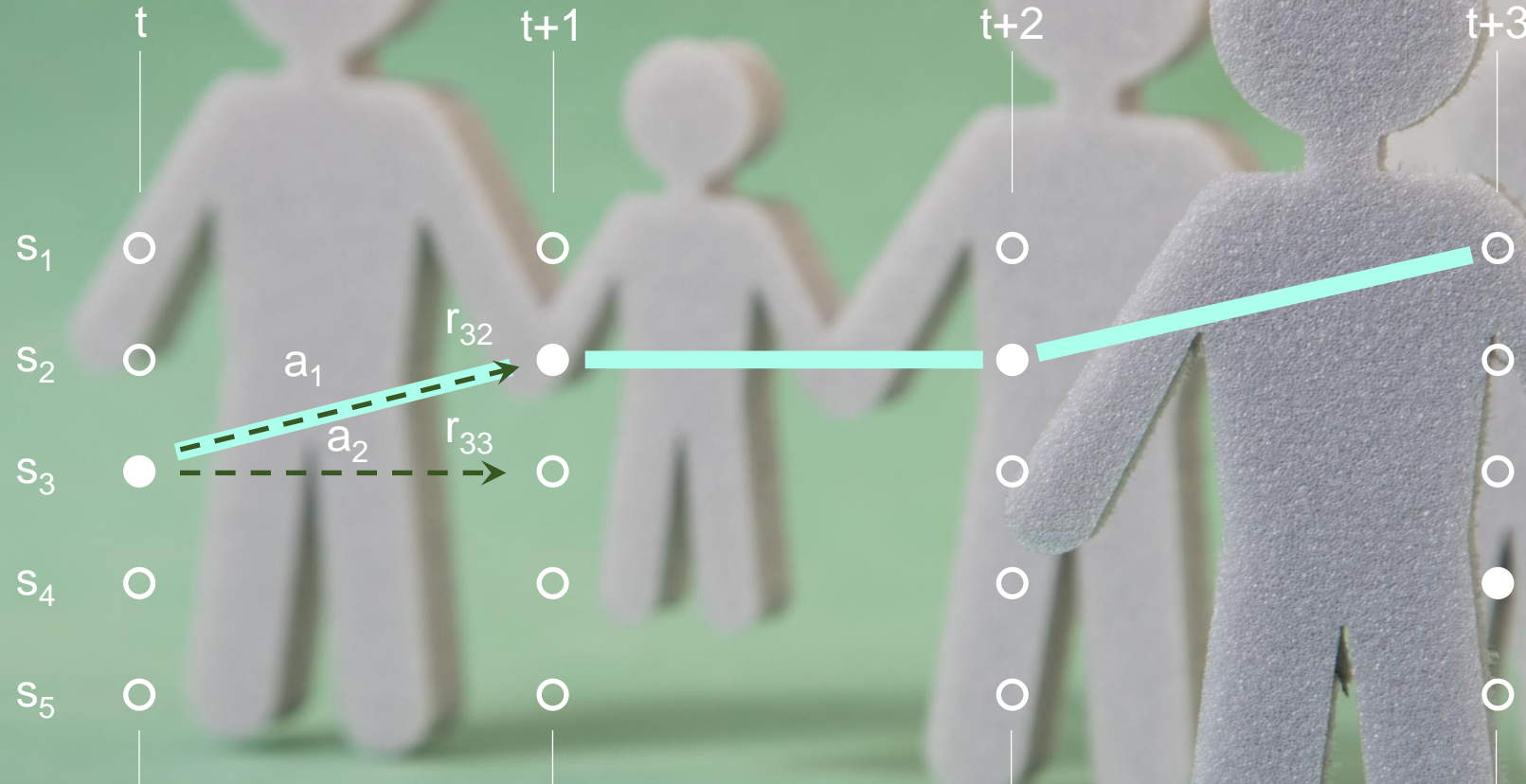
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Ďakujem za pozornosť

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