

# CPSC 586

## Game AI

Richard Zhao

PLAY



# About me

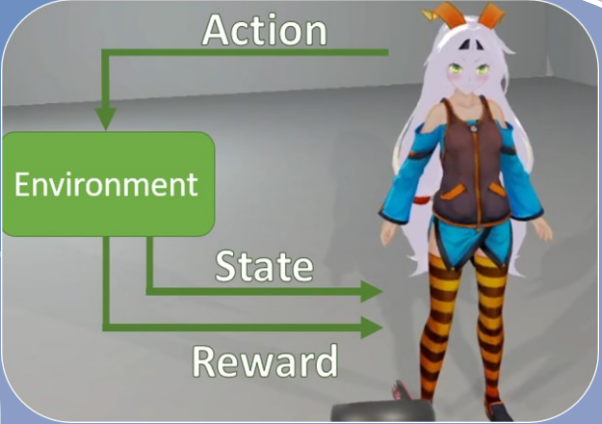
Richard Zhao  
"The Game Guy"



Serious Games for training and learning



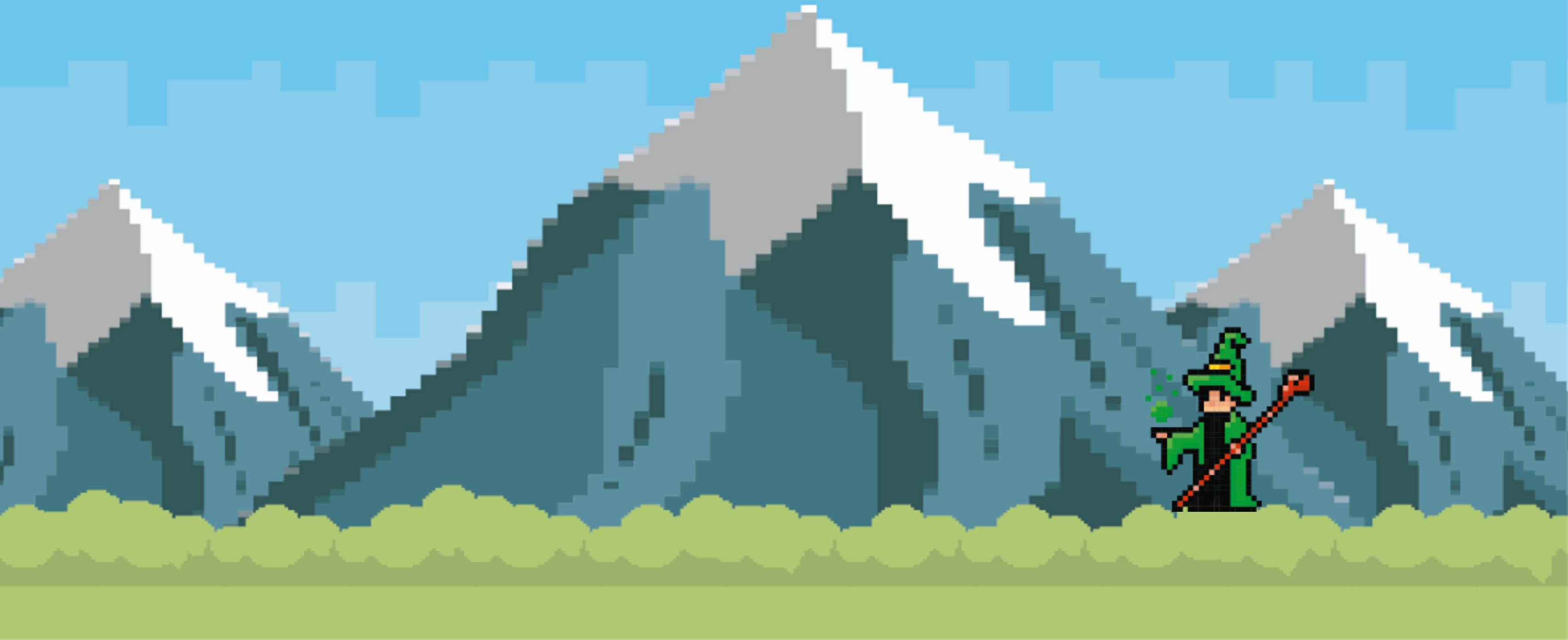
Immersive Technologies  
Virtual reality, digital twins  
Voice, emotion, and eye-tracking



Artificial Intelligence  
Modeling and Personalization

# CPSC 586 Fall 2025 (formerly CPSC 599.11)

What is this all about?



# CPSC 586 Fall 2025 (formerly CPSC 599.11)

Are you interested in AI?

Are you interested in Games?



# CPSC 586 Fall 2025 (formerly CPSC 599.11)

Game AI in the intersection of game development and the study of AI

# CPSC 586 Fall 2025 (formerly CPSC 599.11)

Hands-on course on AI techniques commonly used in video games, such as

Finite State Machine

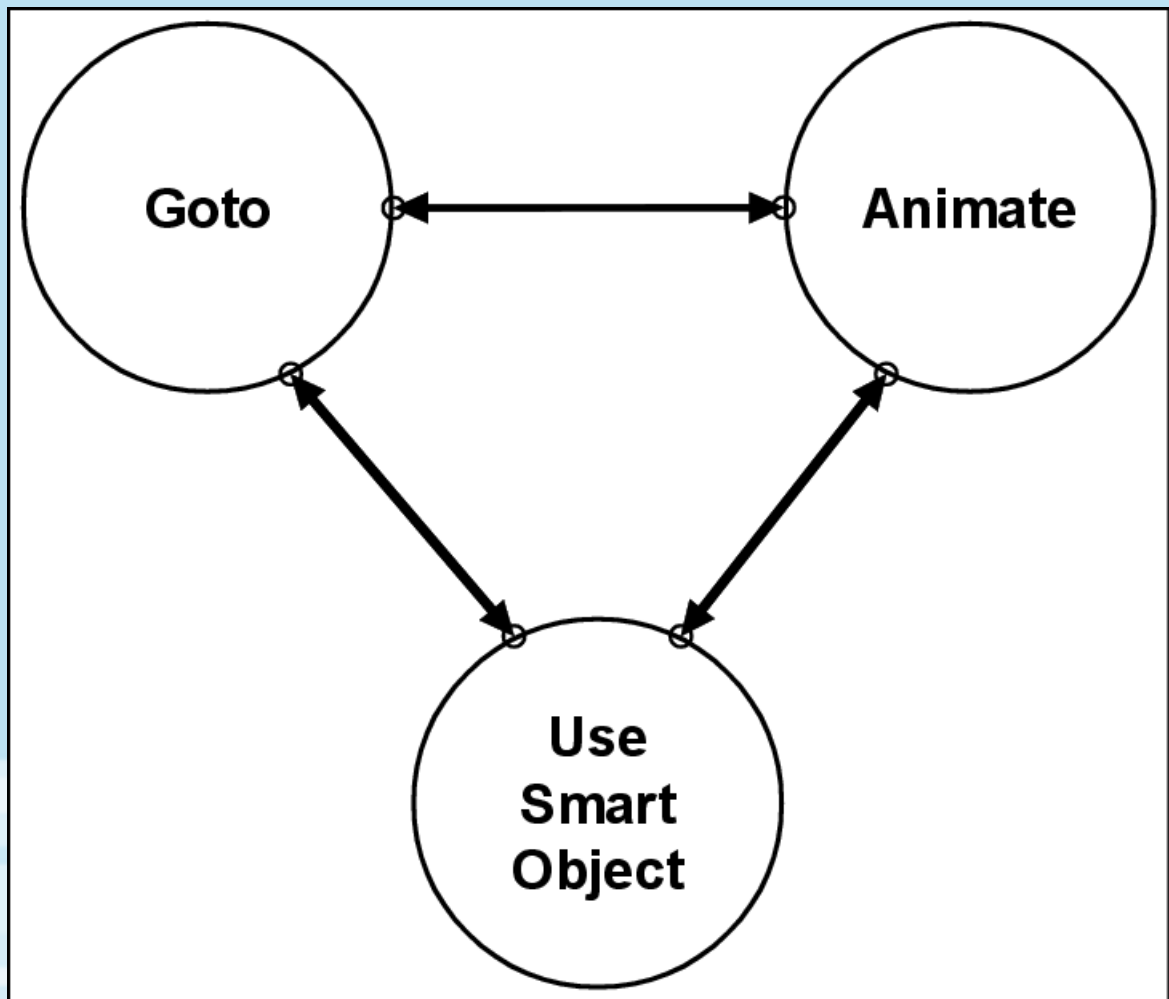
Behaviour trees

Search-based methods

Planning

(Machine) Learning, including large language models





F.E.A.R.'s Finite State Machine

# AI 2025 (formerly CPSC 599.11)

Course on AI techniques commonly used  
in games, such as

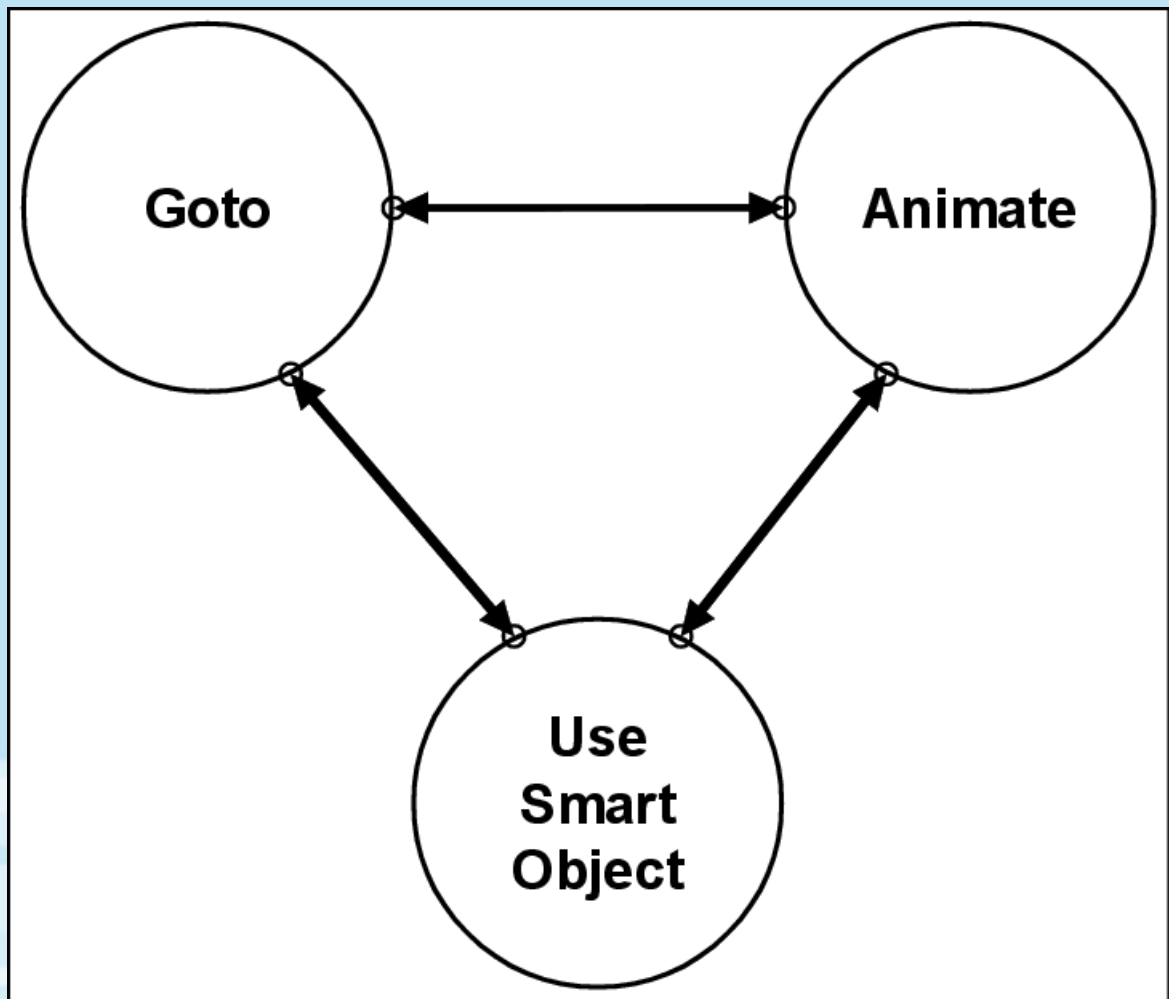
Machine

Learning

Search-based methods

Planning

(Machine) Learning, including large language models



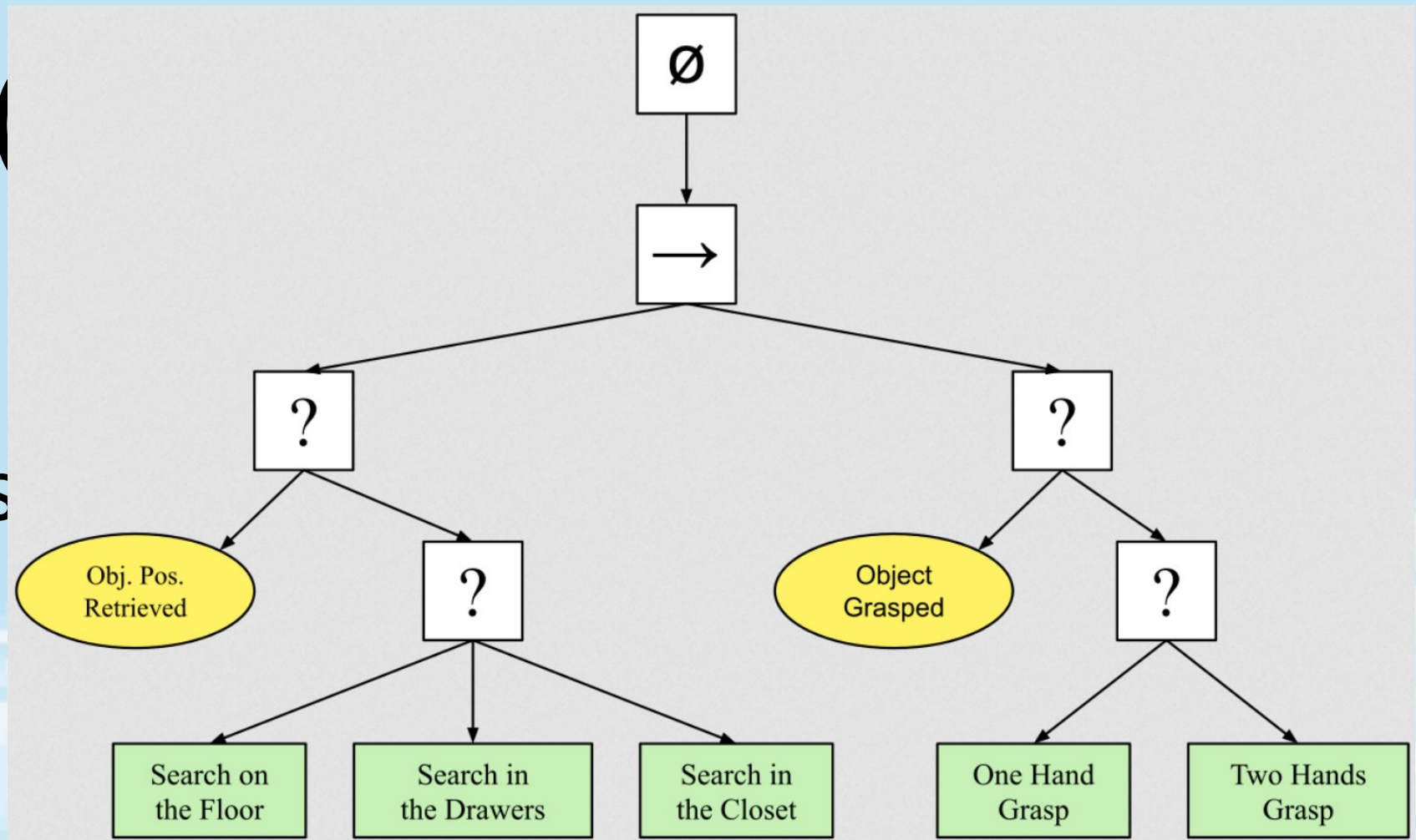
F.E.A.R.'s Finite State Machine

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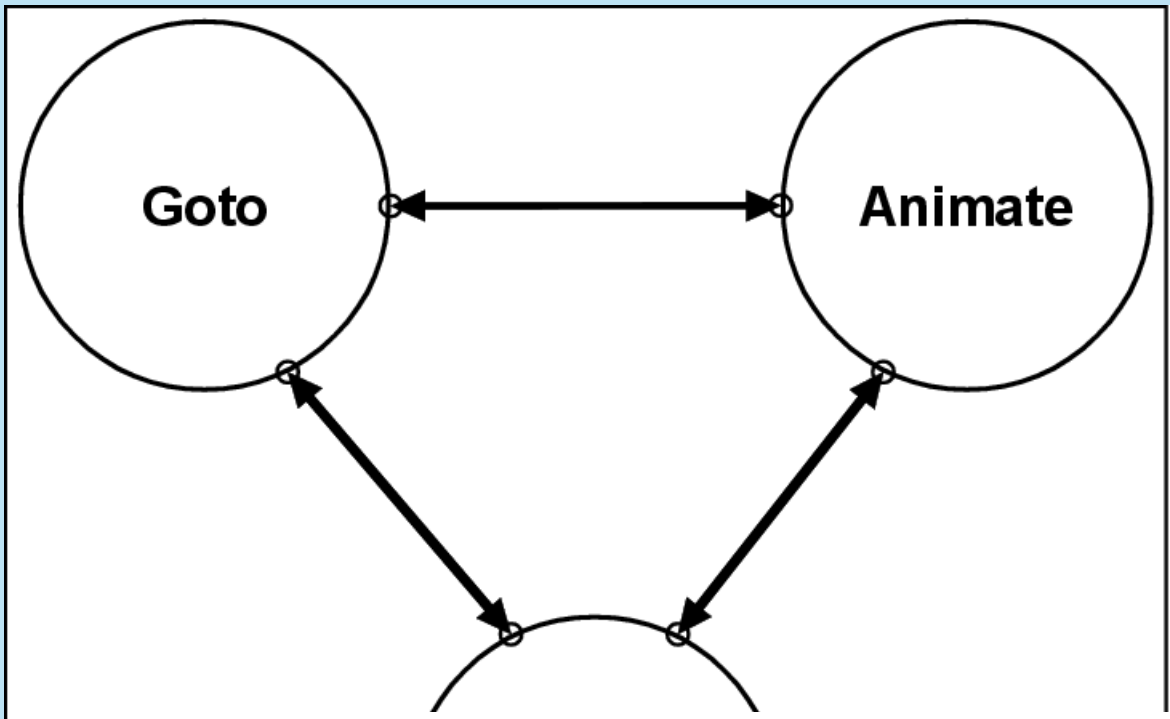


Search-based methods

Planning

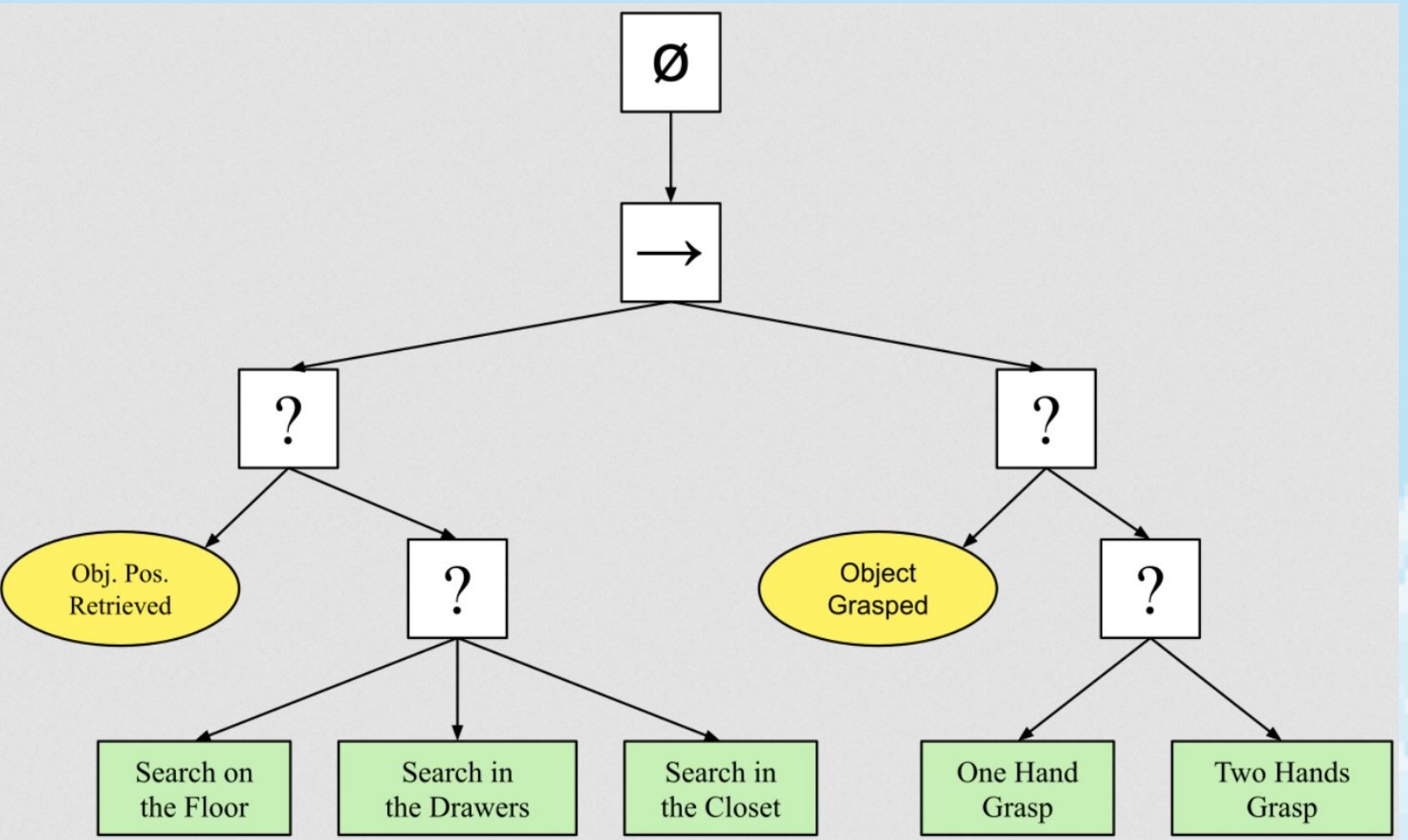
(Machine) Learning, including large language models



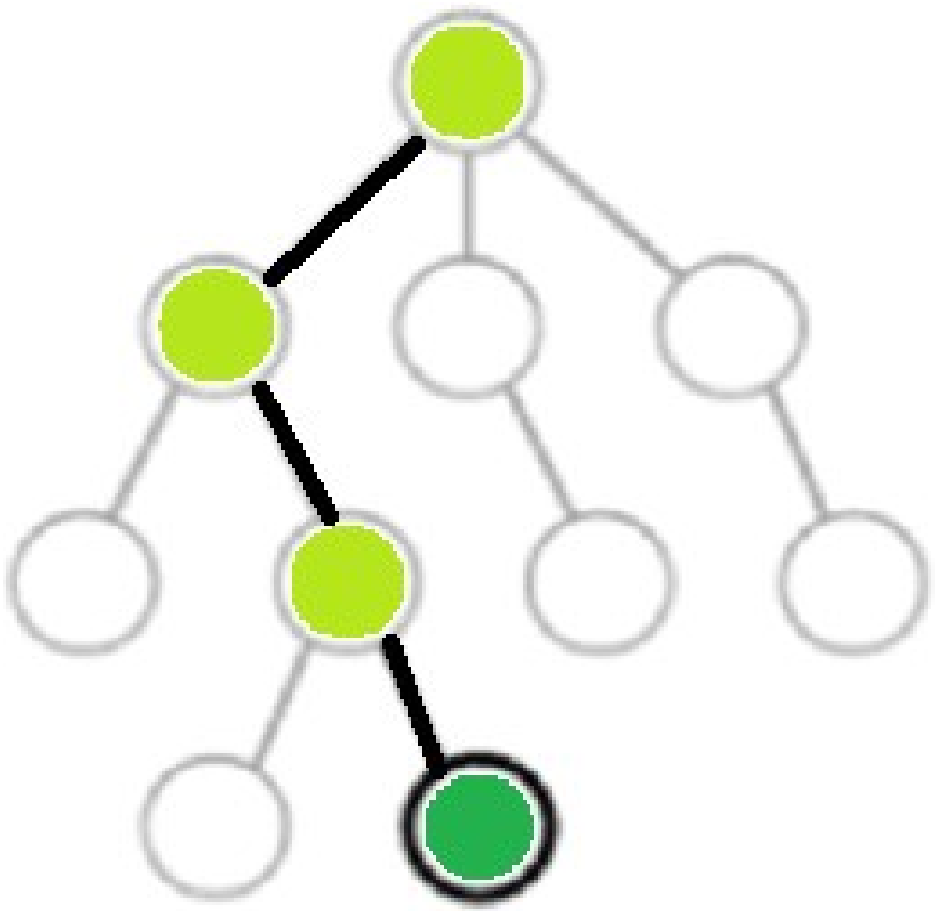


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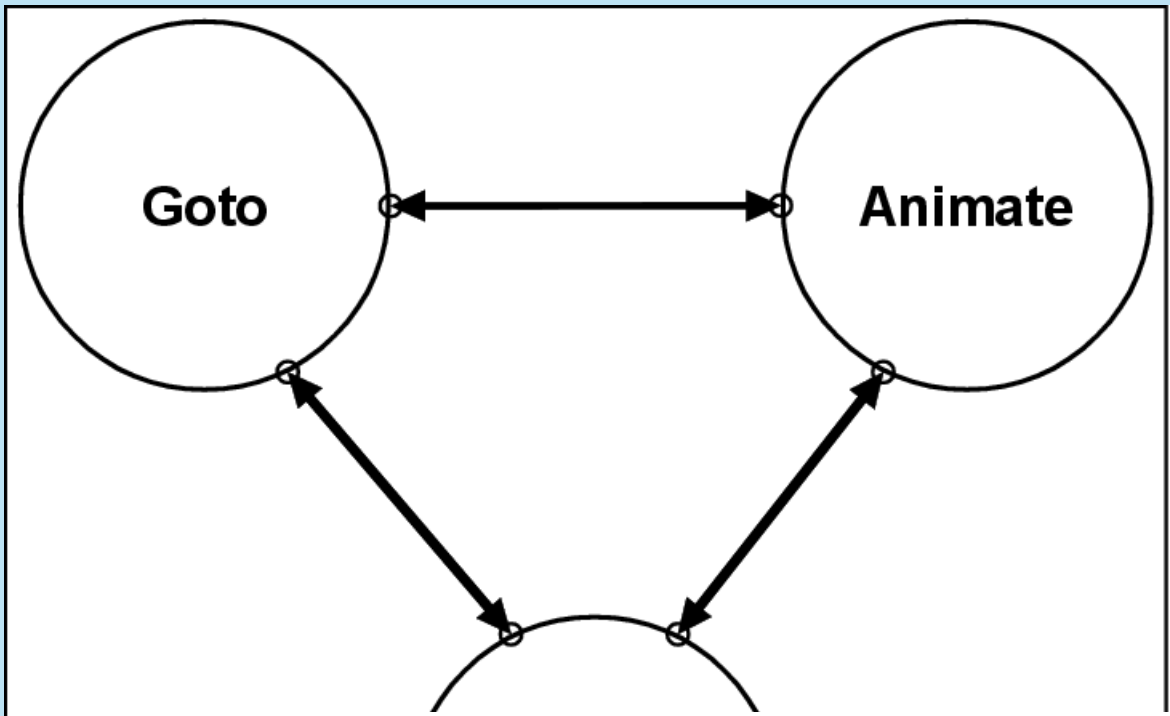
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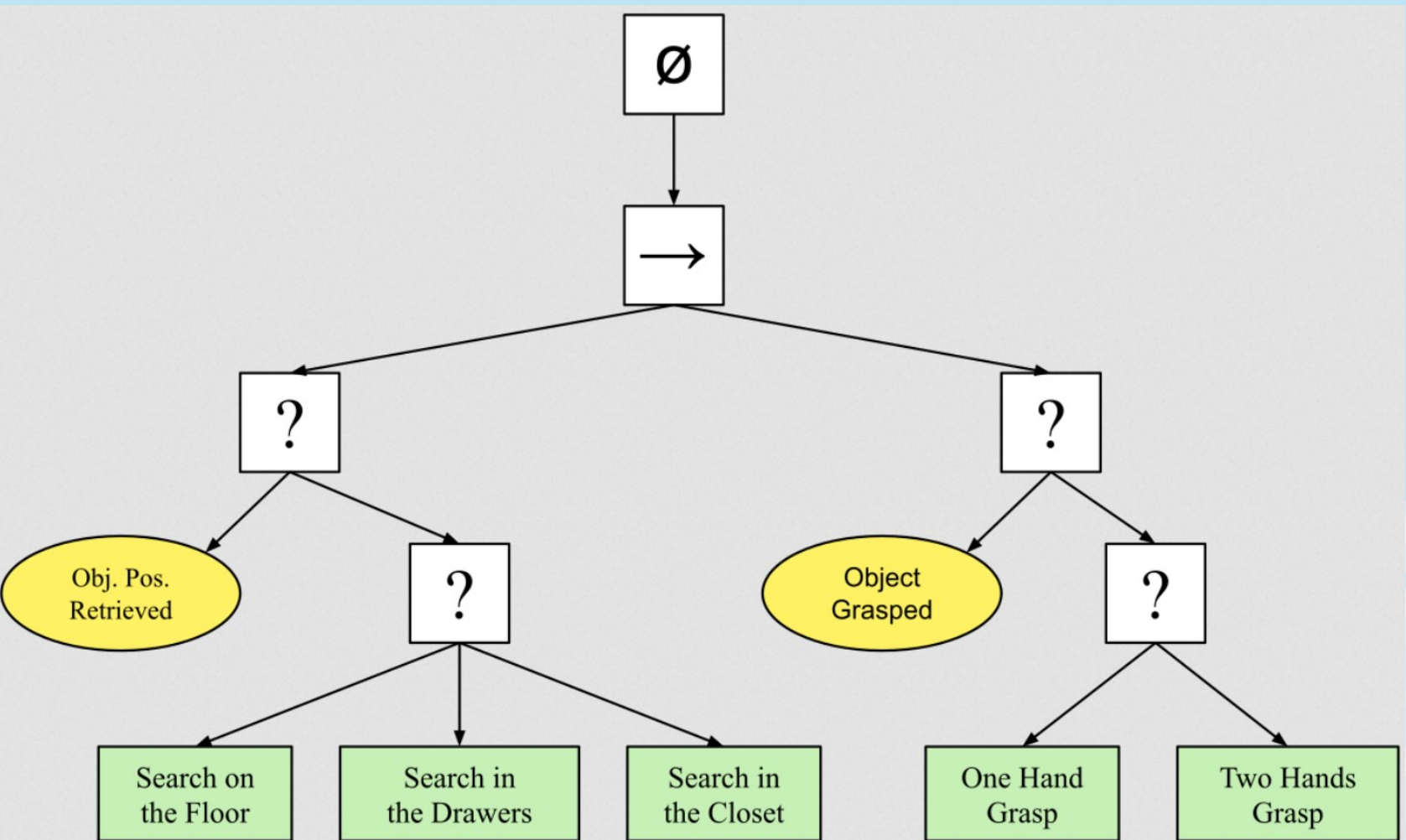
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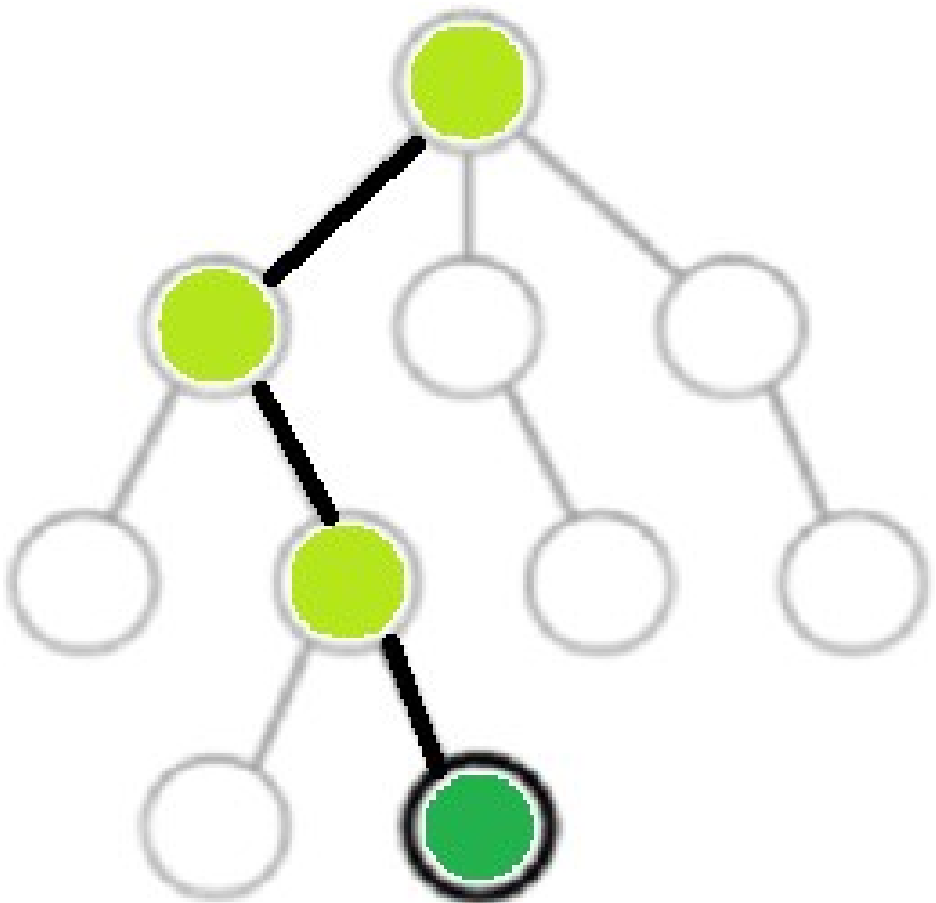


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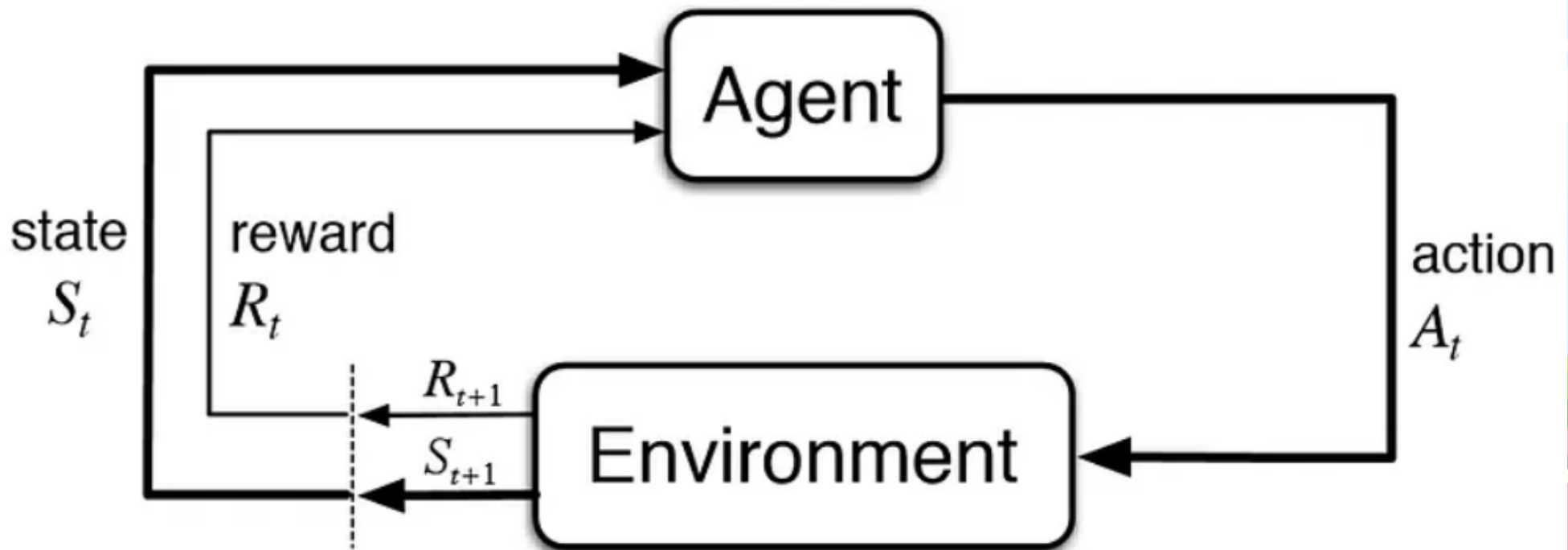
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# CPSC 586 Fall 2025 (formerly CPSC 599.11)

Students practice the implementation of AI techniques in the Unreal game engine, an industry standard production tool

Course project is to create an AI-based game in Unreal – students decide on the genre



# Course components

5 Exercises - 4% each

1 Assignment - 20%

Course Project (Create a Game) - 60% in teams

- Offered Fall 2025 semester.
- Pre-req: CPSC 413 Design and Analysis of Algorithms.
- <https://cspages.ucalgary.ca/~richard.zhao1/gameai.html>



**GAME OVER**



# Credits

Presentation template  
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