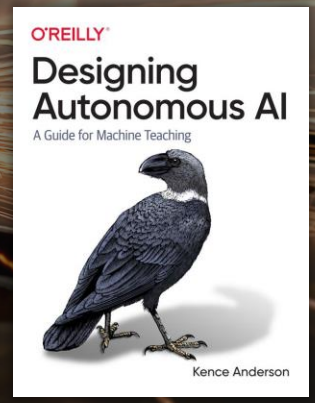
Building Intelligent Autonomous Agents

August 24, 2023

Kence Anderson
Founder & CEO, Composabl



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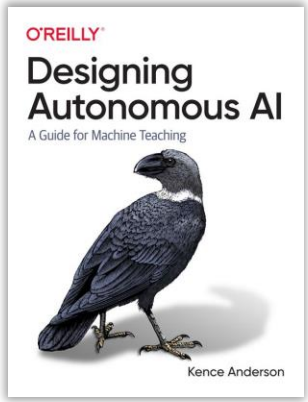
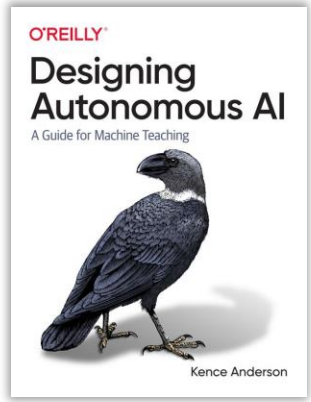
The time for intelligent autonomous agents is now.

- AutoGPT is the fastest growing open-source project in the history of GitHub (137k GitHub Stars).
- 85 ChatGPT Plugins were launched in the first month.
- The global industrial automation and control systems market size was valued at USD 172.26 billion in 2022.

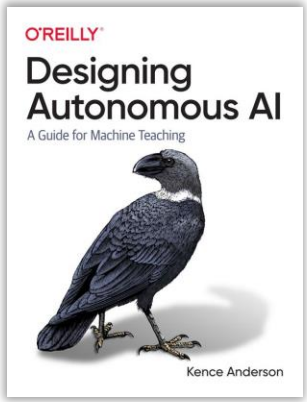


Use cases for intelligent autonomous agents

- Industrial Process Control
- Robotics
- Financial Asset Allocation
- Autonomous Vehicle Control
- Market & Commodity Trading
- Drones
- Supply Chain Network Optimization
- Factory Machine Control
- Cyber Security
- Back Office Automation
- Formulation Discovery
- Warehouse Optimization



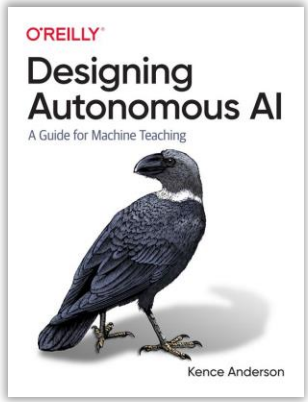
Structure of intelligent autonomous agents



Structure of intelligent autonomous agents

Sense

Determine what is happening.



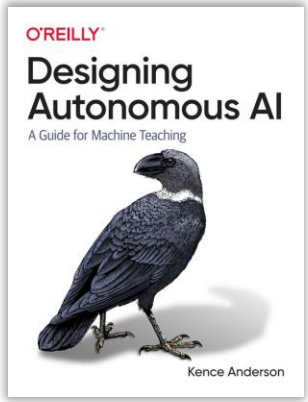
Structure of intelligent autonomous agents

Sense

Determine what is happening.

Plan

Examine options.



Structure of intelligent autonomous agents

Sense

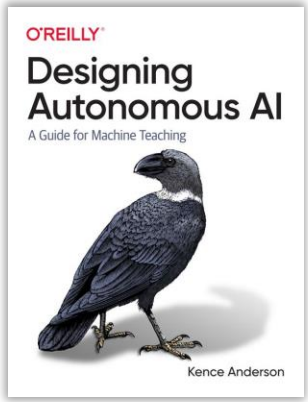
Determine what is happening.

Plan

Examine options.

Act

Decide what to do next.



Structure of intelligent autonomous agents

Sense

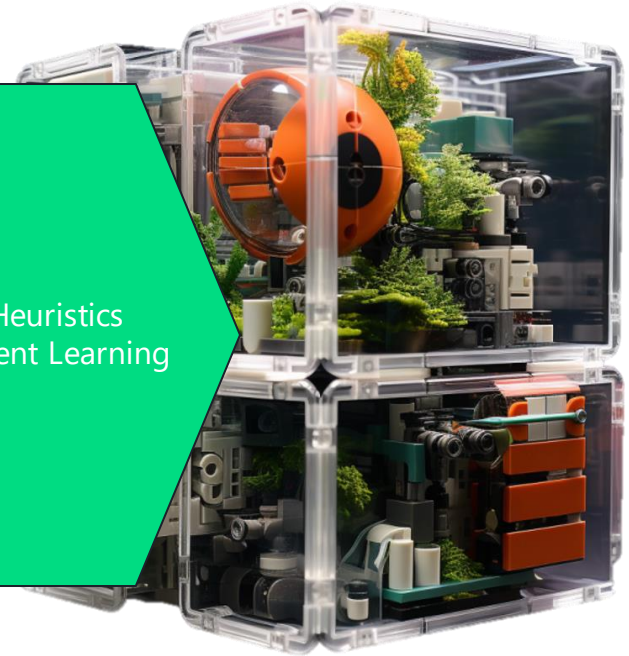
Supervised Learning
Clustering
Anomaly Detection
Computer Vision
Signal Processing

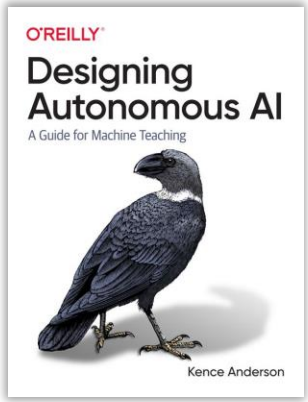
Plan

Monte Carlo Tree Search
Constraint Optimization

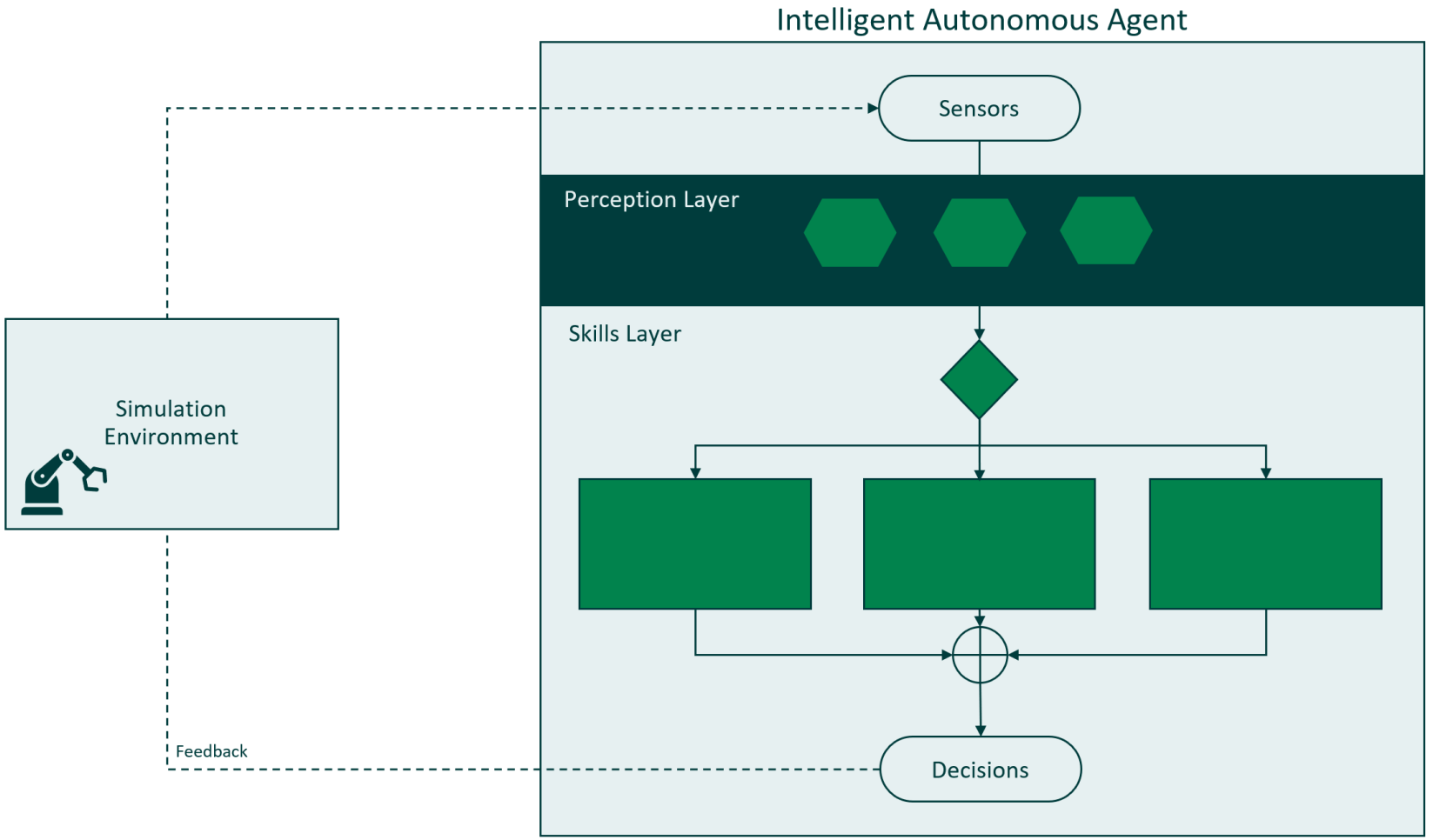
Act

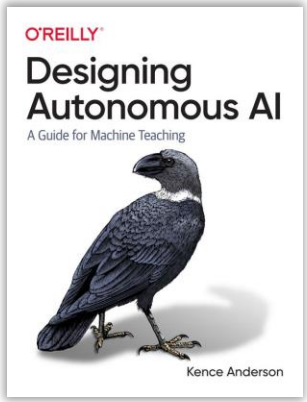
Control Theory
Rules Engines & Heuristics
Deep Reinforcement Learning
Transformers
Optimization



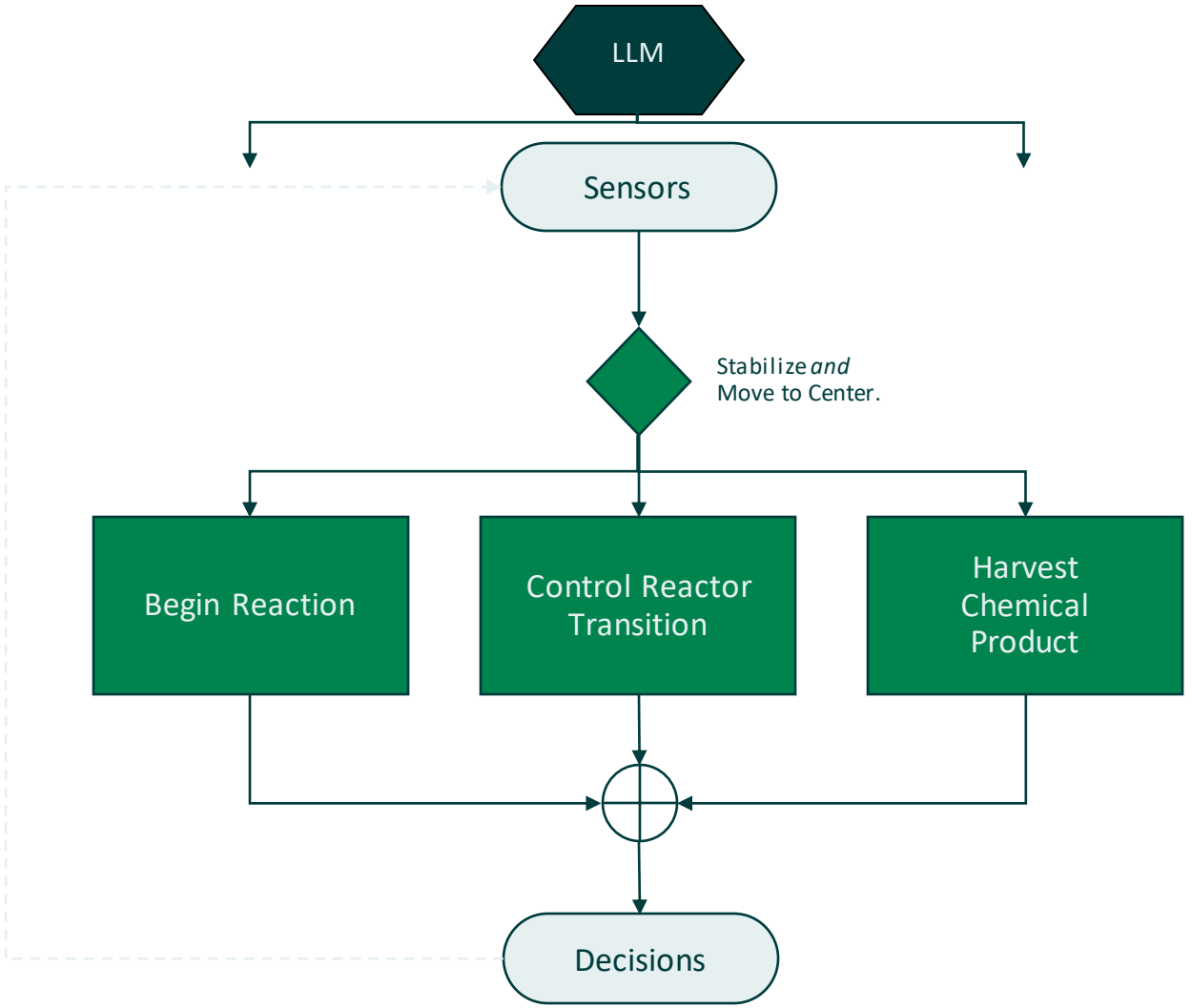


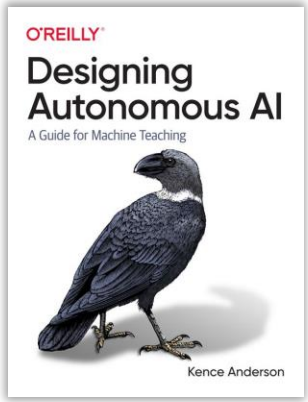
The structure of intelligent autonomous agents



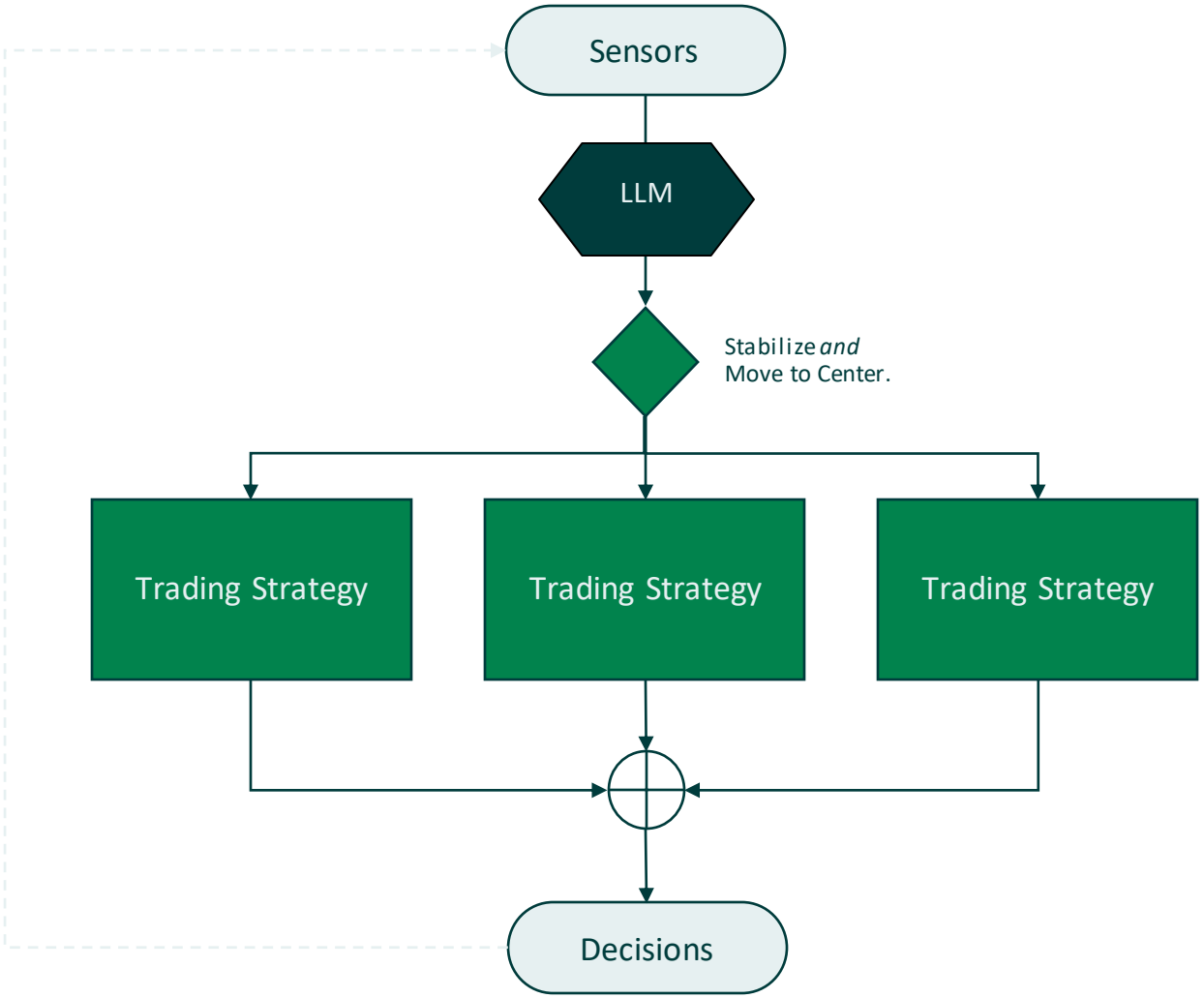


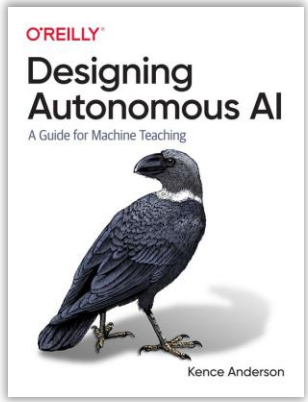
Design Patterns for intelligent autonomous agents: Copilot Pattern





Design Patterns for intelligent autonomous agents: Research Pattern





Thank You
Q&A

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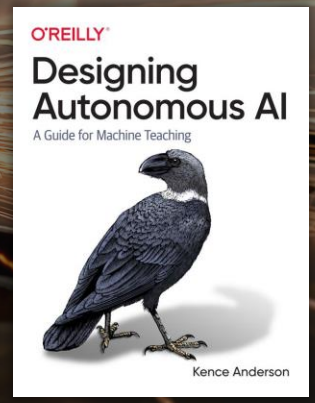

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