

# Intelligent Agent (Agen Cerdas)

Kuliah Kecerdasan Buatan

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# Pengertian Agen

- Apa yang dimaksud dengan Agen?
  - Nilai Keaktifan

# Pengertian Agen[1]

- Segala sesuatu yang dapat melihat/memahami/mempersepsikan lingkungannya melalui sensor dan bertindak terhadap lingkungannya melalui aktuator.
- Apakah anda Agen?
  - Nilai keaktifan

# Contoh-contoh Agen[1]

## □ Apakah anda Agen?

- Melihat/memahami/mempersepsikan lingkungan dengan mata, telinga, indera penciuman, dll, kemudian bertindak menggunakan kaki, tangan, pita suara, dll.

## □ Agen Robot:

- Sensor: Misalnya: Kamera, dll
- Aktuator: Berbagai jenis motor agar robot dapat bertindak.

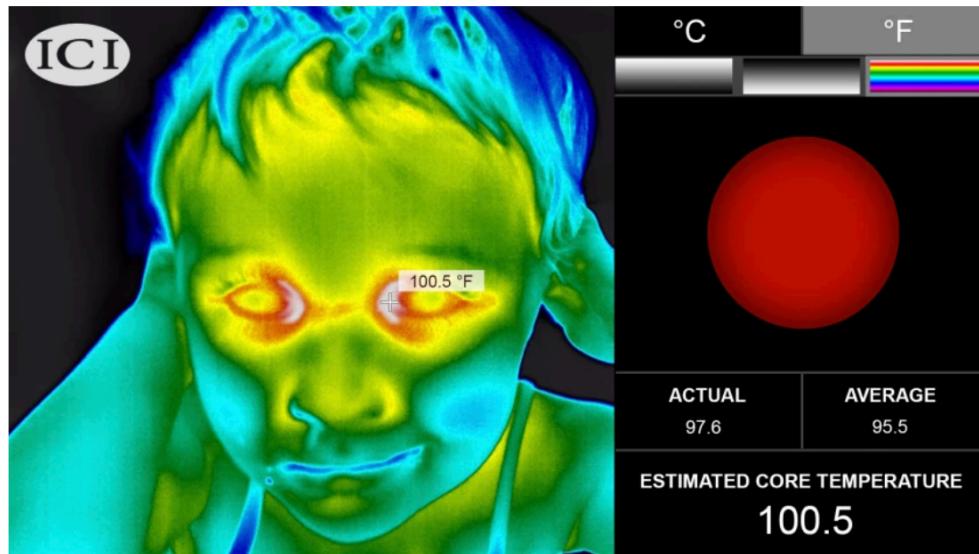
# Contoh Sensor yang bisa digunakan Agen

Los Angeles Times

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Airport operators hope new screening technologies will give passengers renewed confidence to fly again. Above, a thermal camera made by Infrared Cameras Inc. shows a person's temperature. (Infrared Cameras Inc.)

BY HUGO MARTÍN | STAFF WRITER

MAY 13, 2020 5 AM PT

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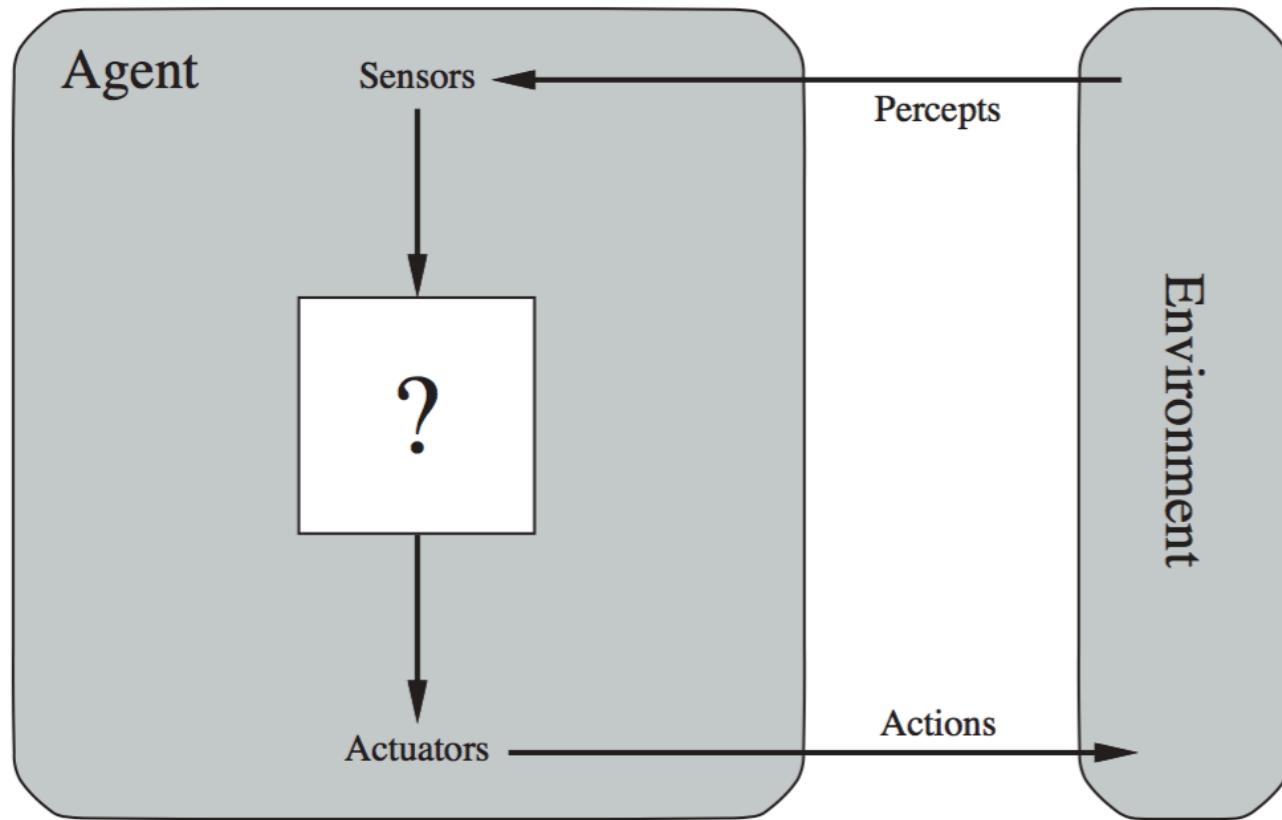
# Contoh-contoh Agen[ I ]:

- Agen perangkat lunak:
  - Dapatkah Perangkat lunak menjadi agen?
  - Jika ya, apa yang menjadi sensor dan berikan contoh agen perangkat lunak bertindak!
  - Nilai keaktifan.

# Contoh-contoh Agen[ I ]

- Sensor dari Agen perangkat lunak: tombol-tombol keyboard, layar sentuh, isi file, dan paket jaringan.
- Bertindak terhadap lingkungan: Menampilkan pesan di layar, menulis file, and mengirim paket jaringan.

# Agen[1]



**Figure 2.1** Agents interact with environments through sensors and actuators.

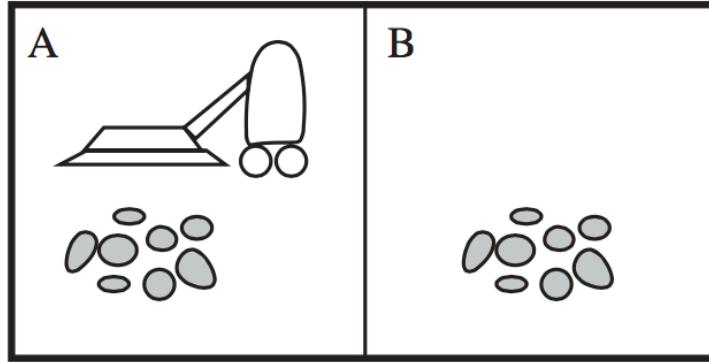
# Agen Vacuum Cleaner

<https://www.youtube.com/watch?v=XIPzSmwC1J8>



Gambar diambil dari: <https://review.bukalapak.com/techno/rekomendasi-robot-vacuum-cleaner-terbaik-109623>

# Agen Vacuum Cleaner



**Figure 2.2** A vacuum-cleaner world with just two locations.

Percept sequence	Action
[A, Clean]	Right
[A, Dirty]	Suck
[B, Clean]	Left
[B, Dirty]	Suck
[A, Clean], [A, Clean]	Right
[A, Clean], [A, Dirty]	Suck
:	:
[A, Clean], [A, Clean], [A, Clean]	Right
[A, Clean], [A, Clean], [A, Dirty]	Suck
:	:

**Figure 2.3** Partial tabulation of a simple agent function for the vacuum-cleaner world shown in Figure 2.2.

# PEAS[1]

- Performance
- Environment
- Actuator
- Sensors

# PEAS[1]

Agent Type	Performance Measure	Environment	Actuators	Sensors
Taxi driver	Safe, fast, legal, comfortable trip, maximize profits	Roads, other traffic, pedestrians, customers	Steering, accelerator, brake, signal, horn, display	Cameras, sonar, speedometer, GPS, odometer, accelerometer, engine sensors, keyboard

**Figure 2.4** PEAS description of the task environment for an automated taxi.



Agent Type	Performance Measure	Environment	Actuators	Sensors
Medical diagnosis system	Healthy patient, reduced costs	Patient, hospital, staff	Display of questions, tests, diagnoses, treatments, referrals	Keyboard entry of symptoms, findings, patient's answers
Satellite image analysis system	Correct image categorization	Downlink from orbiting satellite	Display of scene categorization	Color pixel arrays
Part-picking robot	Percentage of parts in correct bins	Conveyor belt with parts; bins	Jointed arm and hand	Camera, joint angle sensors
Refinery controller	Purity, yield, safety	Refinery, operators	Valves, pumps, heaters, displays	Temperature, pressure, chemical sensors
Interactive English tutor	Student's score on test	Set of students, testing agency	Display of exercises, suggestions, corrections	Keyboard entry

**Figure 2.5** Examples of agent types and their PEAS descriptions.

# PEAS

- Tentukan PEAS dari Agen Cerdas berikut:

[https://www.youtube.com/watch?  
v=MVC4YAT2dNs](https://www.youtube.com/watch?v=MVC4YAT2dNs) Moxi Robot yang membantu di Rumah Sakit.





□ Dilanjutkan pada petemuan  
berikutnya...

# Referensi

1. Stuart Russell, Peter Norvig, 2010, “Artificial Intelligence, 3<sup>rd</sup> Ed”, Prentice Hall, USA, chapter 2.
2. Stuart Russell, Peter Norvig, 2020, “Artificial Intelligence, 4<sup>th</sup> Ed”, Prentice Hall, USA.