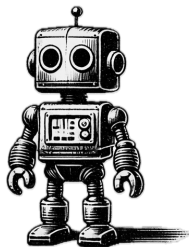
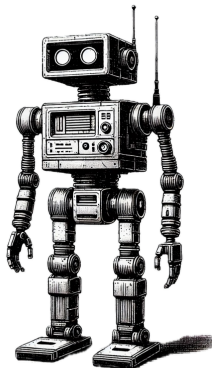


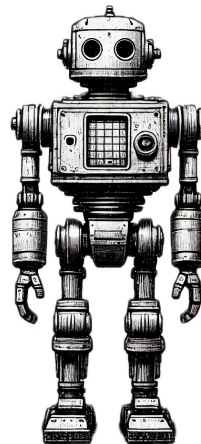
**Tier 1:
Reactive Systems**



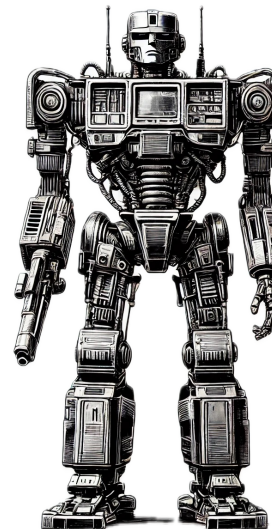
**Tier 2:
Symbolic Processing**



**Tier 3:
Structured Modeling**



**Tier 4:
Abstract Reasoning**



**Technical
Evolution**

- Seq2Seq + RNNs
- Attention Mechanisms

- Transformers
- Vision-Language Pretraining

- Neural SLAM
- Topological Graphs

- Large Foundation Models
- LLMs (e.g., NavGPT, GPT-4)

**Piagetian
Stages**

- Perception-Action Coupling
- Egocentric Reactivity

- Symbolic Representation
- Emergence of Memory

- Logical Planning
- Spatial Conservation

- Abstract Thinking
- Zero-Shot Adaptability

**Sensorimotor
(0-2 years)**

**Preoperational
(2-7 years)**

**Concrete Operational
(7-11 years)**

**Formal Operational
(11+ years)**