

Models of agents based on intentional logic

EEL 5937 Multi Agent Systems

Agents as Intentional Systems

- When explaining human activity, we find it useful to make statements such as:
 - Janine took her umbrella because she **believed** it will rain
 - Michael worked hard because he **wanted** a PhD.
- These statements make use of a **folk psychology**, by which human behavior is predicted and explained through the attribution of attitudes, such as believing and wanting, and also hoping, fearing and so on.
- The attitudes employed in such folk psychological descriptions are called the **intentional** notions.

Agents as intentional systems (cont'd)

- The philosopher Daniel Dennett coined the term intentional system to describe entities “whose behavior can be predicted by the method of attributing belief, desires and rational acumen”.
- Dennett identifies different “grades” of intentional system:
 - “A first order intentional system had beliefs and desires (etc.) but no beliefs and desires about beliefs and desires.
 - ...A second order intentional system is more sophisticated; it has beliefs and desires (and no doubt other intentional states) about beliefs and desires (and other intentional states) - both those of others and its own.
- Is it legitimate or useful to attribute beliefs, desires, and so on, to computer systems?