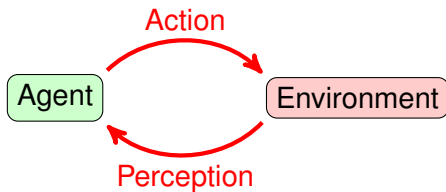# Action
Vehicle Modelling II

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Vehicle Modelling

Agents act

- Vehicle agents
  - move forward
  - choose direction at cross-roads
  - brake
  - accellerate
  - signal (maybe)

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Perception leads to action

- Car ahead $\Rightarrow$ brake
- Car ahead acellerates $\Rightarrow$ accellerate
- Empty road $\Rightarrow$ accellerate
- Pedestrian $\Rightarrow$ brake
- Intersection ahead $\Rightarrow$ brake + observe
- Crossing traffic $\Rightarrow$???
    - accellerate and pass in front of it?
    - brake and pass behind it?

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Behaviour is erratic

- Human drivers are not predictable
- Same situation
  - sometimes you speed up
  - sometimes you brake
- Reasons
  1. time to next appointment
  2. mood
  3. moon phase?
- A random element to behaviour might be reasonable

Behaviour is varied

- Different drivers make different choices
    1. Patience
    2. Risk adversity
    3. Politeness
- Variation can be modelled in different ways
    1. different classes of agents
    2. randomness

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Summary

- Agent models require behavioural rules
- At every time tick, the agent ...
    1. analyses the environment
    2. computes a reaction to the environment
    3. informs the environment of the action chosen
- This is the essence of the agent model

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