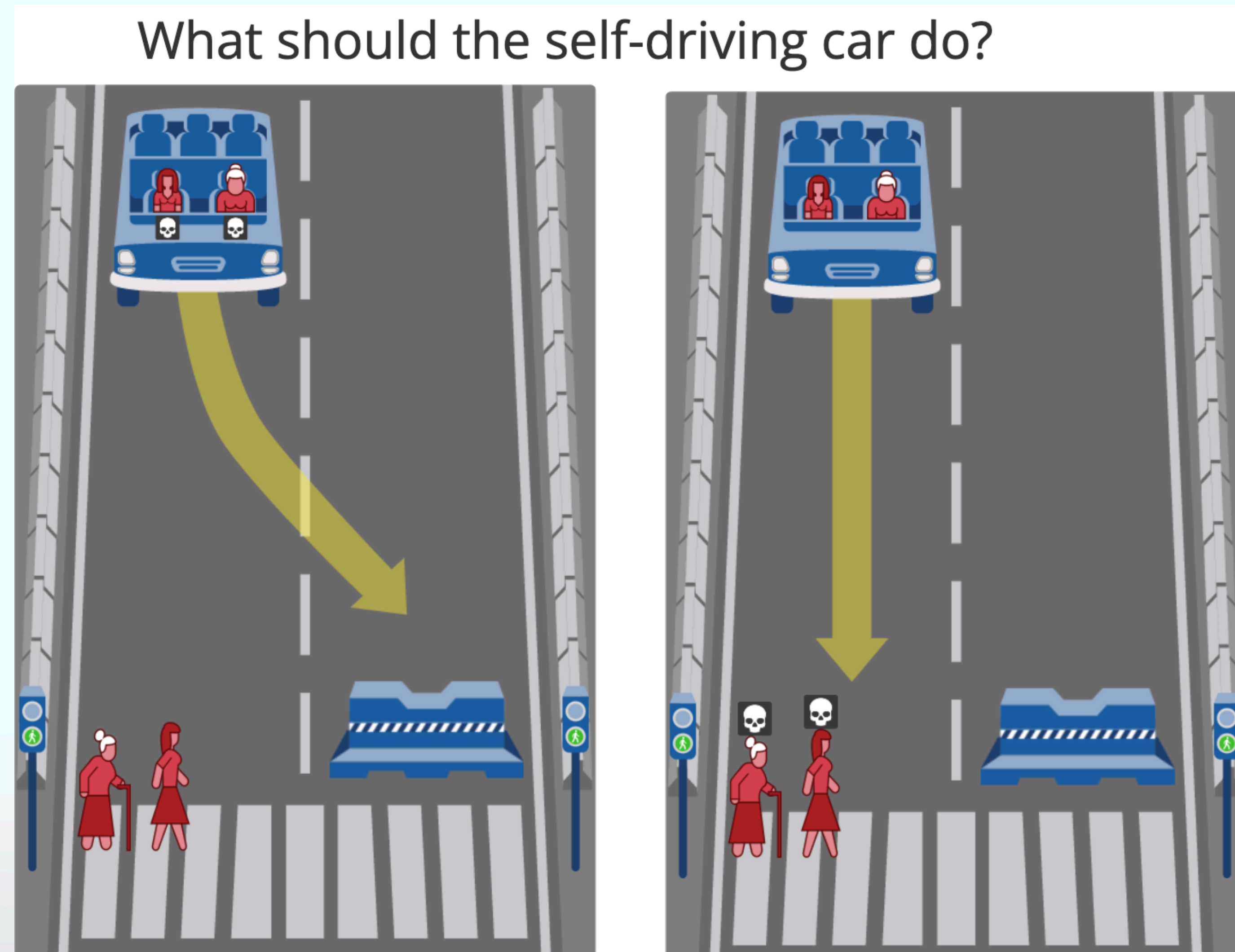


THE MORAL MACHINE EXPERIMENT: PREDICTING INTERVENTION BASED ON CONTEXTUAL FACTORS

A COMPARISON OF RANDOM FOREST, SUPPORT VECTOR MACHINES AND K-NEAREST
NEIGHBORS

Context

- The Moral Machine Experiment (MME) by Awad et al. (2018).
- Resemblance to **trolley dilemmas** - Moral dilemma situations where an autonomous vehicle (AV) can **SWERVE** or **STAY** on track.
- Who to spare?
- Field of study: ethical decision-making involving machines, interaction between society and AI-driven technologies.



Problem Statement

- Difference between classic trolley dilemma and MME: additional **context**.
- Field of sociology: “the environment in which a moral decision unfolds significantly impacts individuals’ cognitive processes, moral reasoning and actions (Hitlin & Vaisey, 2013; Luft, 2020; Shepherd, 2011)”. → Moral decisions may vary according to context.
- Dependent variable: **intervention** (SWERVE or STAY)
- Building on the study by Rhim et al. (2020), important **contextual features** that influence moral reasoning and action:
 1. Distribution of harm between pedestrians and passengers
 2. Number of individuals involved
 3. Legal considerations

Research Question

What influence do contextual factors have on the decision to intervene or not intervene in the context of dilemma situations where an autonomous vehicle has to decide whether to swerve or stay on track?

Sub-questions:

- *Are the following contextual factors predictive of the decision to swerve or stay on track: **(1)** whether pedestrians or passengers are sacrificed, **(2)** the amount of people on each side, and **(3)** the legality of actions?*
- *Which of these contextual considerations are more important for determining the decision?*
- *Do cultural differences affect the identified decisions?*
- *Which ethical theories are reflected in choices determined by contextual factors?*

