

Ethics in Machine Learning

Ethical Issues in Machine Learning



Brainstorm Sesh

What Are Some Ethical Issues in ML?

Brainstorm Sesh

Brainstorm Sesh

Case Study: Filter Bubbles



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- Original Idea by Eli Pariser (Book: *The Filter Bubble*)
- **Main Idea:** Personalized search determines what information you see and what information you don't see.
- **Example:** You search for information on BP. Based on your personalized search, you may get:
 - Stock and Business information about BP
 - Information about the Deep Horizon Spill
- **Debate:** Good thing or bad thing?

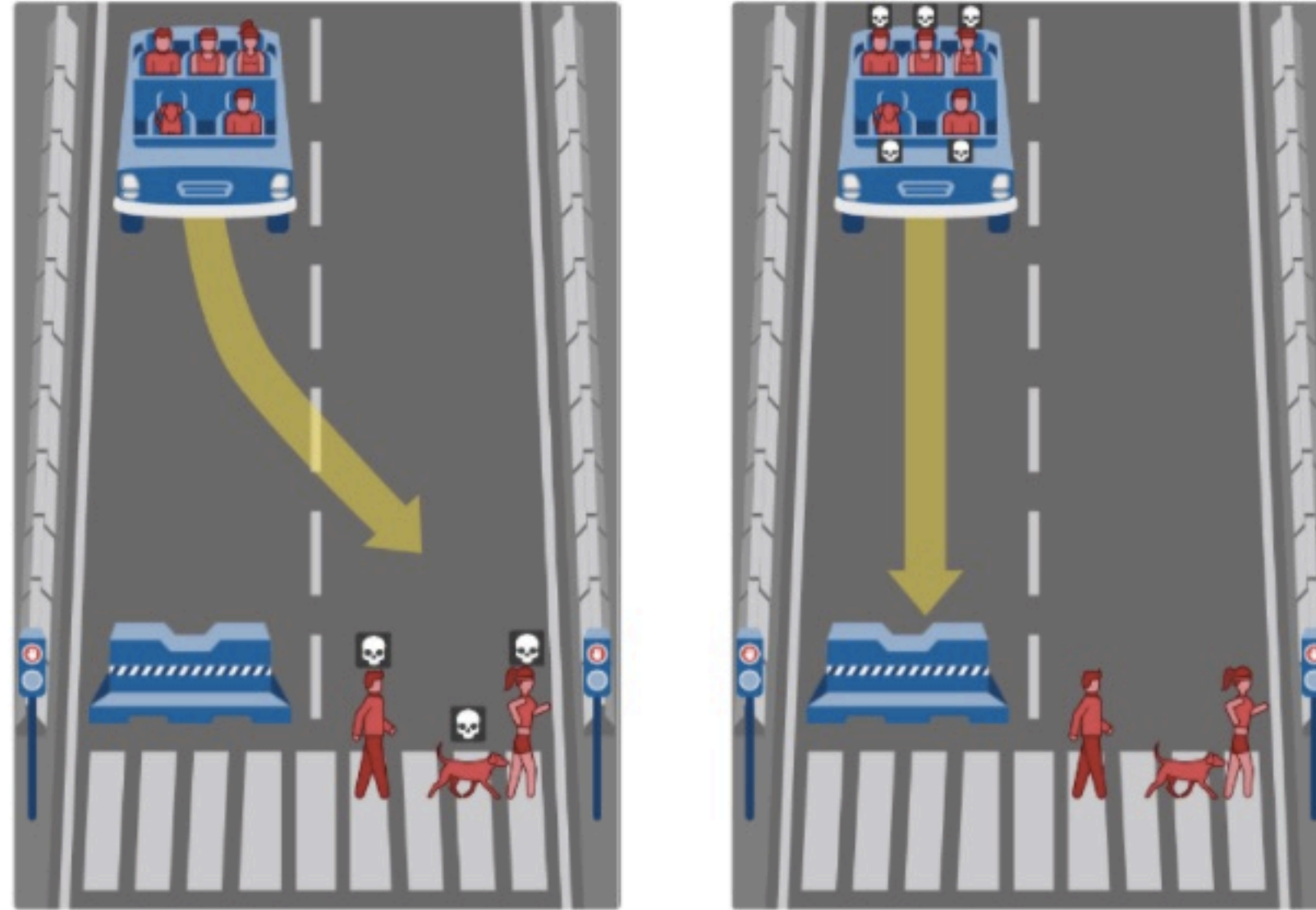
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- **Debate:** Good thing or bad thing?
- **Comparison:** Targeted ads or recommendations

Case Study: Filter Bubbles

Case Study: Self-Driving Car Crashes

What should the self-driving car do?

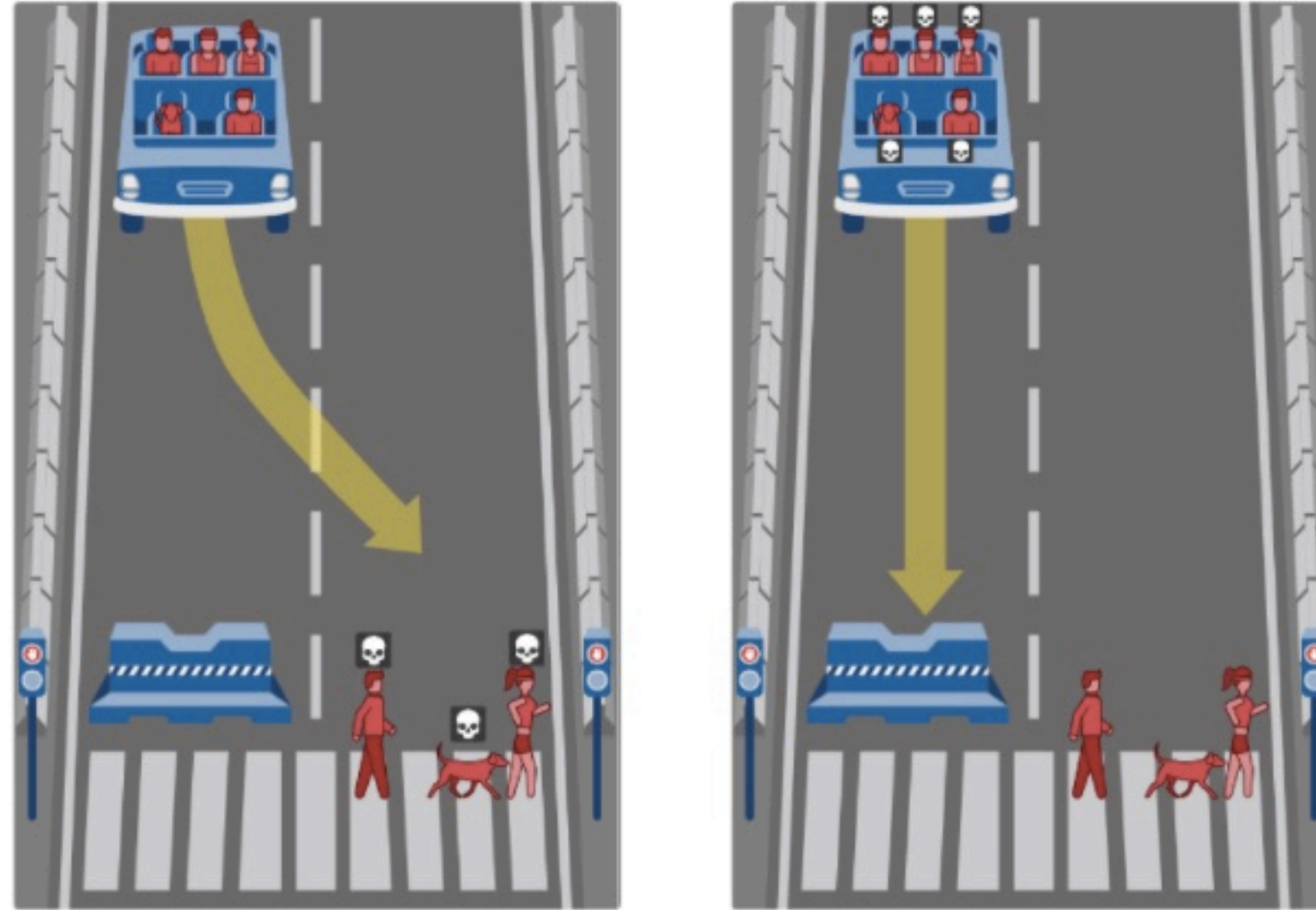


Case Study: Self-Driving Car Crashes

- Interactive study by MIT Moral Machine
- **Main Idea:** In the event of an inevitable crash leading to likely loss of life, what should the car do?
- **Example:** Car crash will either result in death of
 - driver and several passengers
 - several pedestrians
- **Debate:** How do we choose?

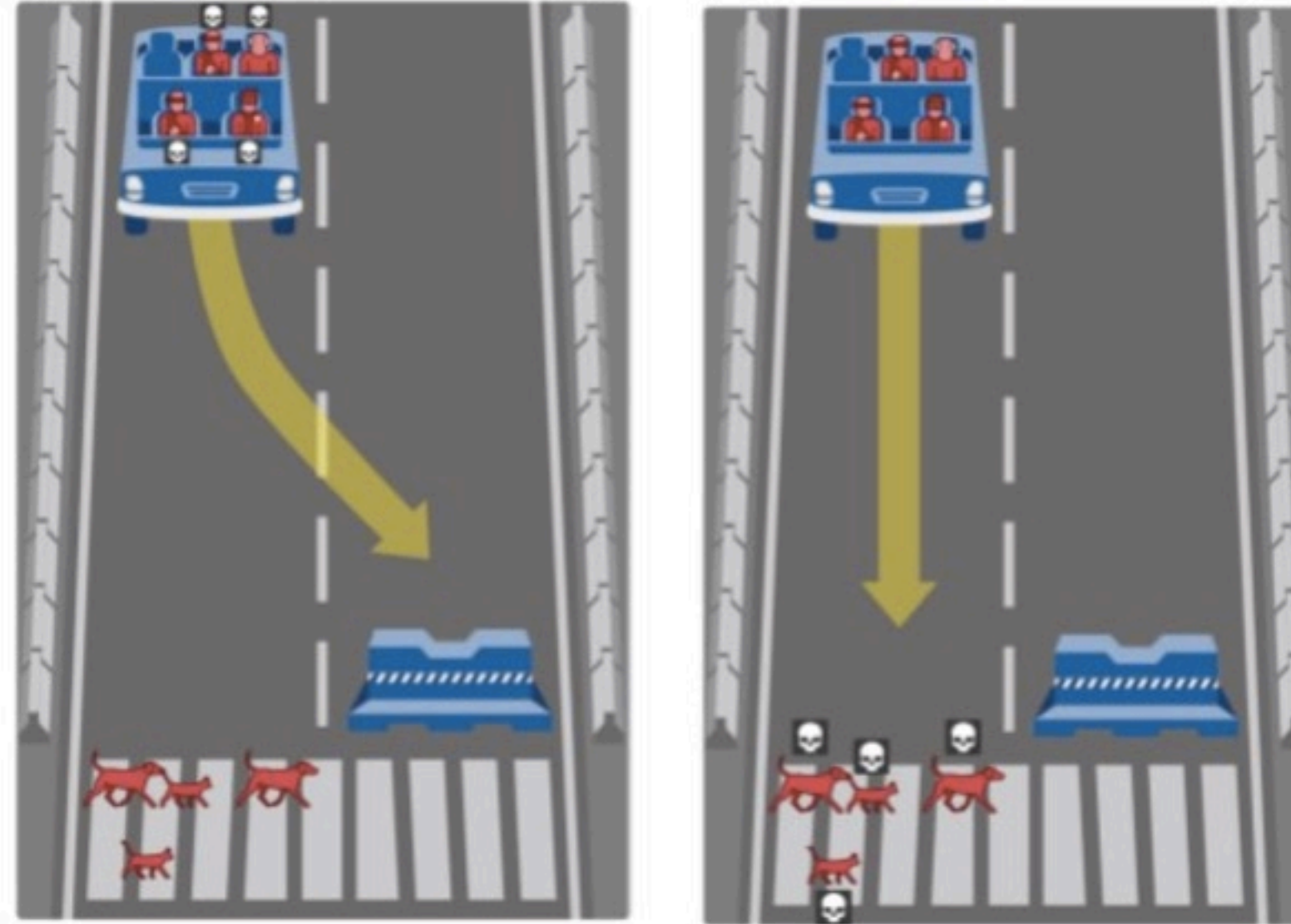
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Case Study: Self-Driving Car Crashes

What should the self-driving car do?



The Ethical Use of Data



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Main Questions:

- What data is OK to use?
- When data is private and what is public?
- Who owns your data?
- What should be done to anonymize data?

The Ethical Use of Data

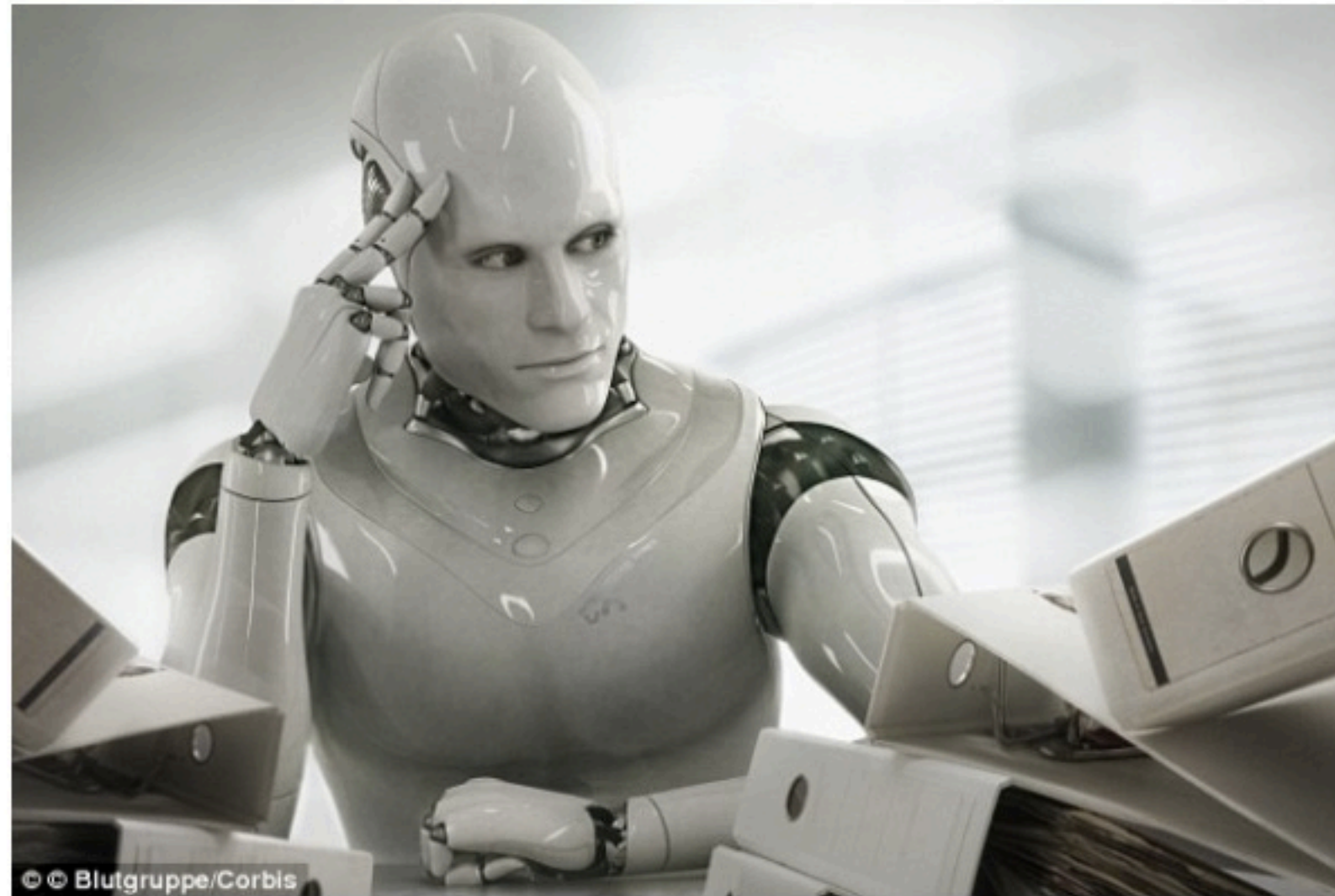
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Discussion Topic: ϵ -Differential Privacy

- Add some noise to data to protect identity
- Bonus regularization?

Can Machines Be Racist?



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- In 2016 it was discovered that FaceBook was letting advertisers target housing adds based on race, a blatant violation of the Federal Fair Housing Act.
- How can we guard against this?
- Whose fault is it when it happens?

Acknowledgments

Many of the articles used in this lecture were sourced by Alvin Grissom II

Resources:

- Eli Pariser, *The Filter Bubble: How the New Personalized Web is Changing What we Read and How We Think*
- MIT Moral Machine: <http://moralmachine.mit.edu/>
- Bo Moore, *What the Ashley Madison Hack Teaches Us about Ethics, Noisy Data and Machine Learning*

In Class

In Class

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