



NOT THE GOAL OF THIS COURSE

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▶ This course is not to make you a mechanic

▶ This course is not for a race car driver:



▶ This is not a course on probabilistic programming or high performance computing



Hardware, packages, languages, models, etc change



Implementation in practice have their own challenges that are not

▶ We will use the energy to motivate methodology

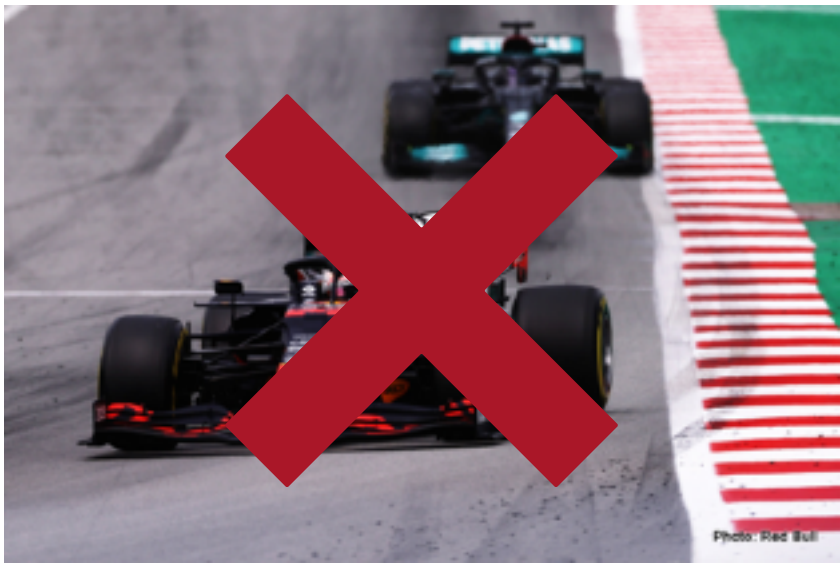


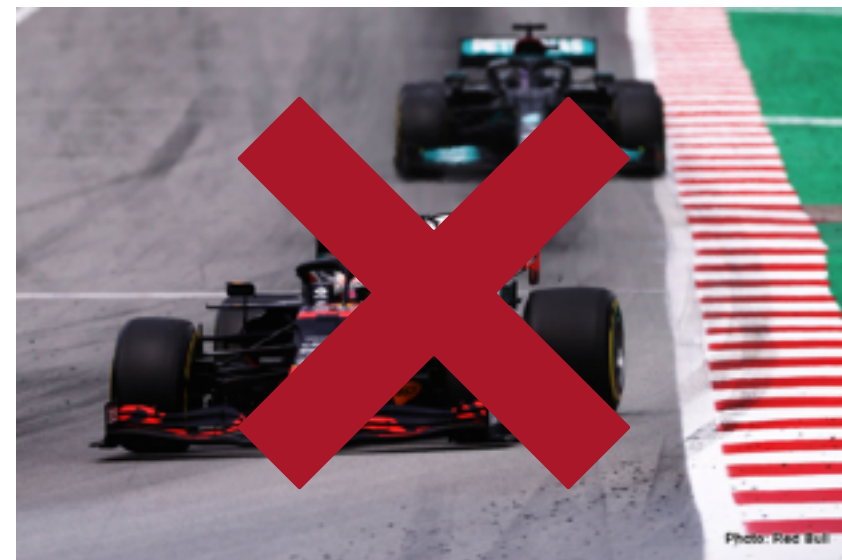
Photo: Red Bull



# NOT THE GOAL OF THIS COURSE

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- ▶ This course is not to make you a **mechanic**
  - ▶ This is not a theory course!
  - ▶ We will use theory to motivate methodology
- ▶ This course is not to make you a **race car driver**:
  - ▶ This is not a course on probabilistic programming or high performance computing
  - ▶ Hardware, packages, languages, models, etc change
  - ▶ Implementations in practice have their own challenges that are not our focus



# COURSE OUTLINE

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## ▶ **Part 1: Foundations**

- ▶ MCMC theory
- ▶ Local inference algorithms
- ▶ Annealing

## ▶ **Part 2: Annealing algorithms**

- ▶ Parallel annealing
- ▶ Sequential annealing

## ▶ **Part 3: Free energy methods**

- ▶ Acceleration methods
- ▶ Enhanced sampling
- ▶ Optional topics