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Tutorial RL4AA

Key points GP-MPC

- Extremely sample efficient
- Can handle constrains
- GP is non-parametric → computational intense, scales badly
- Only model is stored, optimization based control
- Long horizons might be computational intense
- Implementation might be tricky
- Tuning is hard

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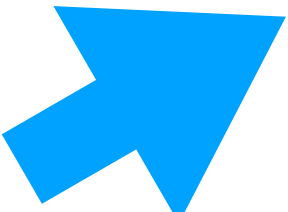
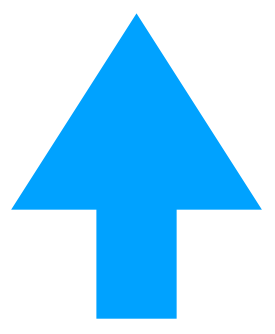


Planning via Model Predictive Control

Optimization



Train a model

Apply action(s) to system

Model (GP)

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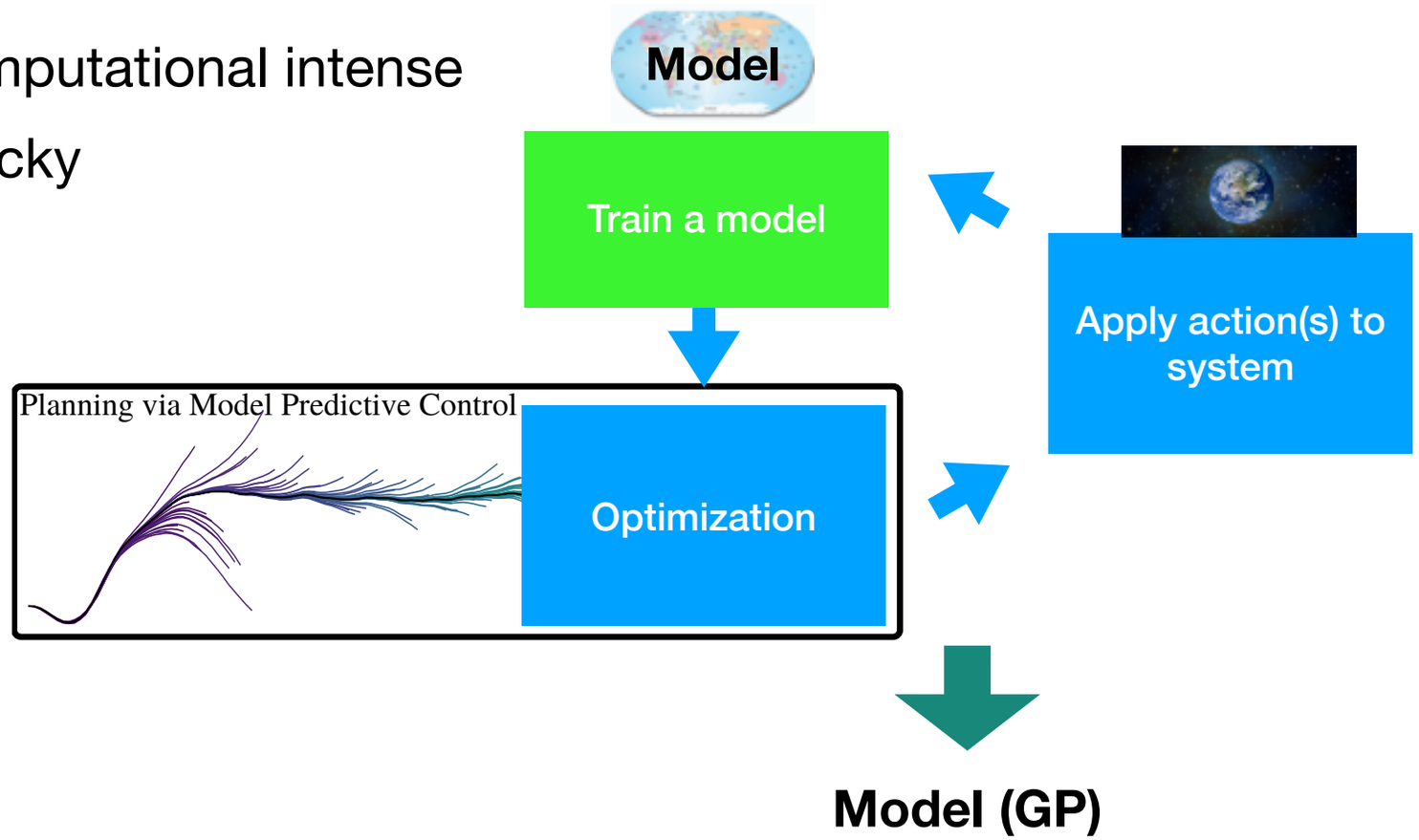

Wishlist

- An agent which is:
  - ➡ Easy to train
  - ➡ Needs little amount of samples or adapts from uncertain simulation
  - ➡ Adapts quickly or continuously to changes
  - ➡ Does not consume to much resources
  - ➡ Generalises well
  - ➡ Respects safety