Multimap Regression for Perceptual Aliasing

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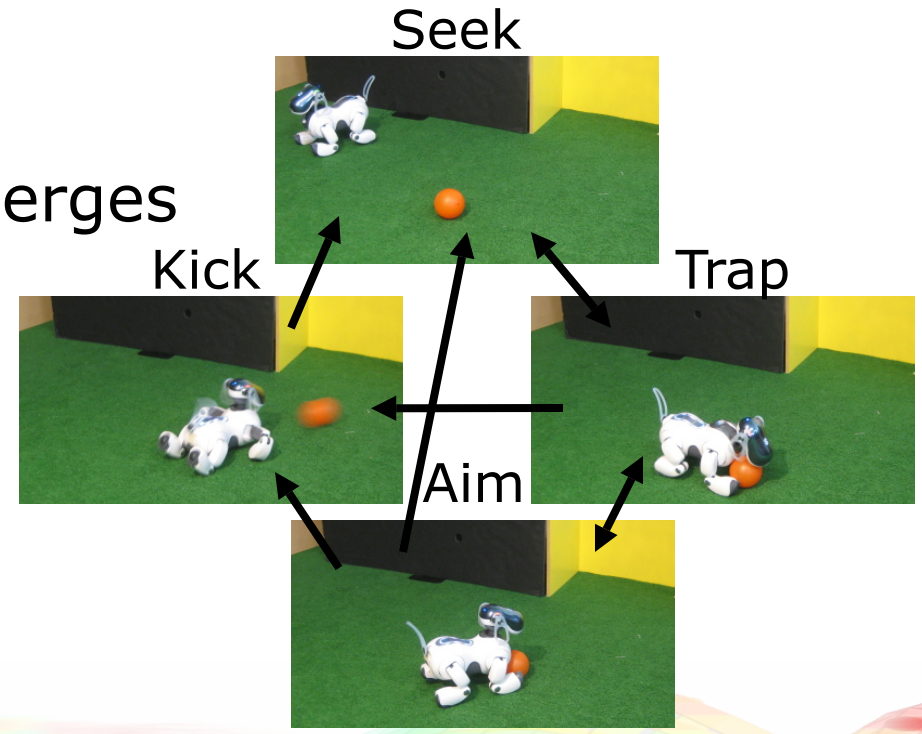
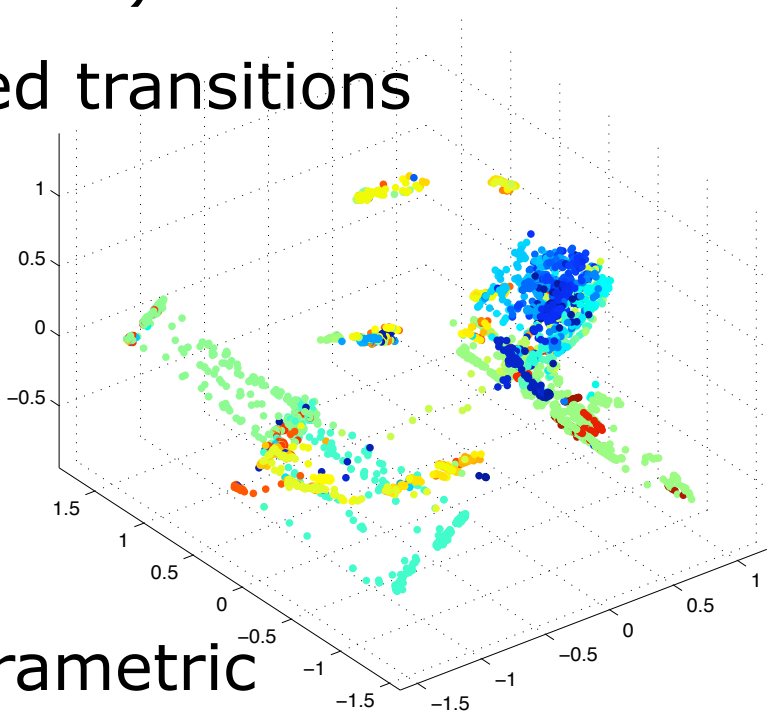
- Perceptual aliasing: One state, multiple actions
- Arises in demonstration of FSM controllers
  - Multiple valid subtasks
  - Standard regression merges
- Methods
  - Hidden State: POMDPs
  - Equivalence: Classes
  - Subtasks: Switch
    - Take subtasks as known



Multimap Regression for Perceptual Aliasing

- Multimap Regression: Discover the number of possible outputs (model selection)
- Outputs = FSM Subtasks, need transitions
- Robot tutelage requires
  - Fast: incremental, sparse
  - Scalable: Lifelong Learning
  - Robust: Noise tolerant
  - Unknown mapping: Nonparametric



- ROGER: Realtime Overlapping Gaussian Expert Regression