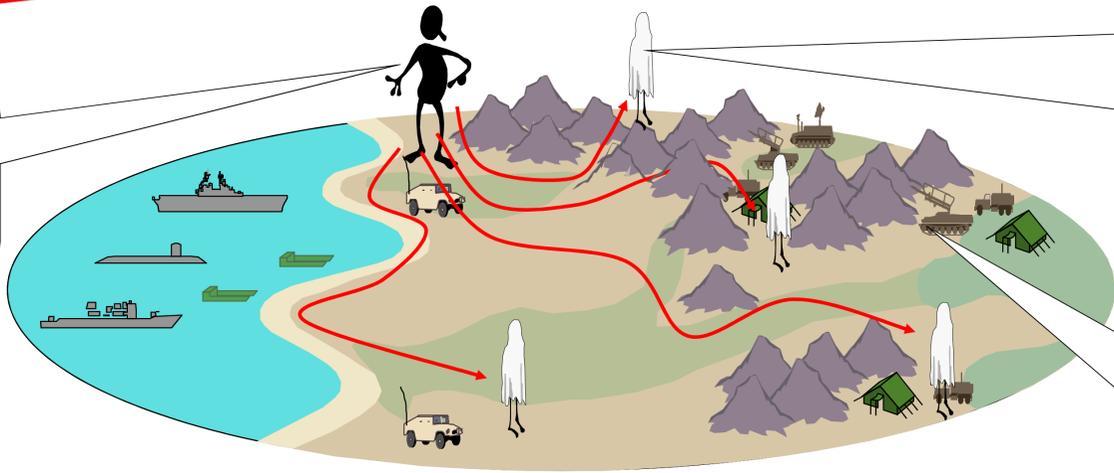


AXON AI

Research Areas of Interest

Polyagent (Monte Carlo) forecasting
in graphical models

- Avatar:**
- One per domain entity
 - Complex reasoning
 - Persistent



- Ghosts:**
- Many per domain entity
 - Continuously generated by Avatar
 - Tropistic reasoning
 - Deposit probability field
 - Apoptotic (finite lifetime)

- Environment:**
- Graph structure shows possibility of next step
 - Attached evidence modulates probability of next step

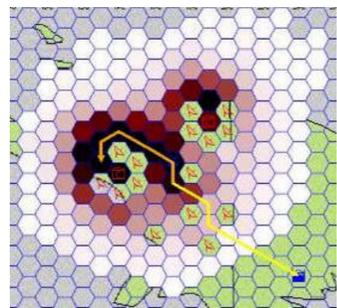
- Each ghost samples one possible trajectory of its avatar
- The set of ghosts builds a distribution over possible trajectories ($\sim 10^7$) *in a single run*.

Qualifications and Capabilities

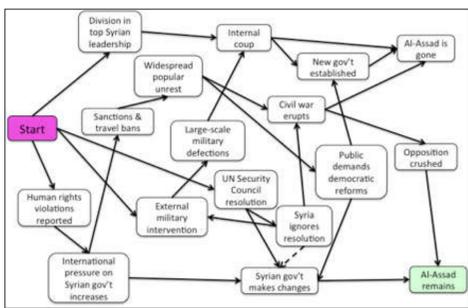
(developed in multiple IARPA, DARPA, ONR, and NIST programs)

Representation: any graph structure whose edges represent temporal evolution

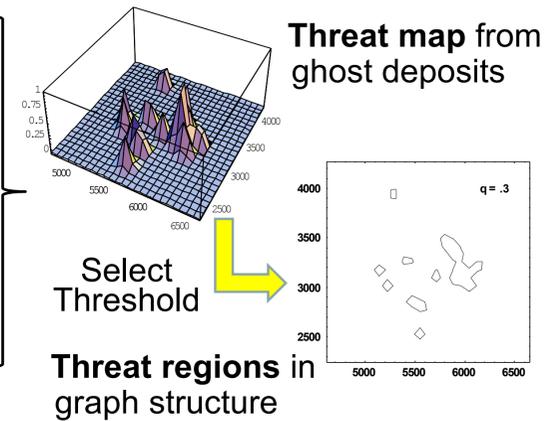
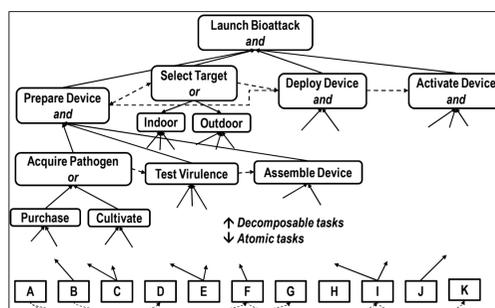
Geospatial



Causal-Temporal (NSM)



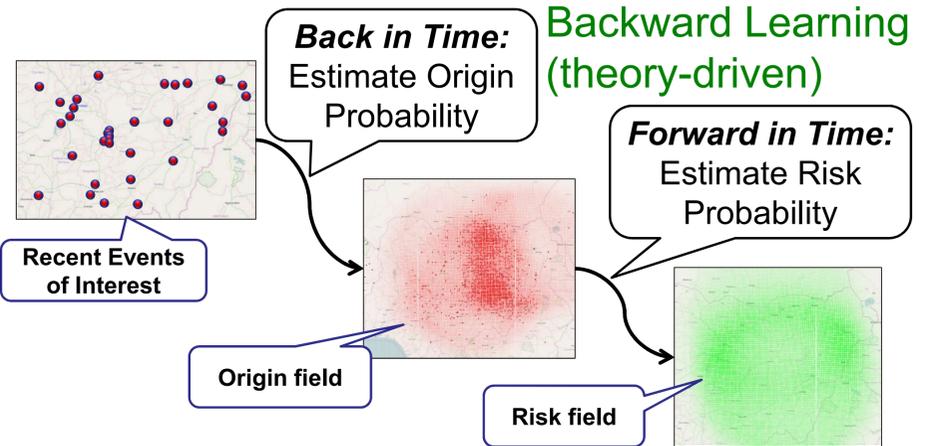
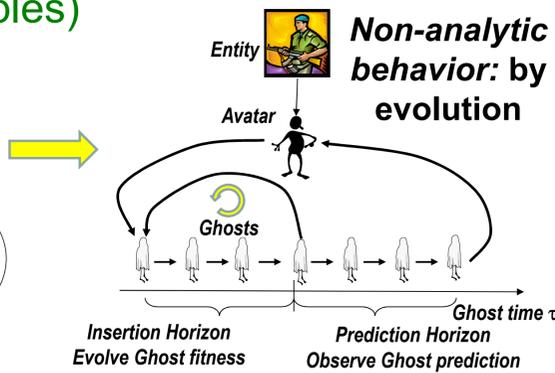
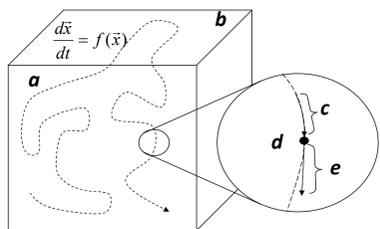
Task-Dependency (HTN)



Learning Entity Behaviors:

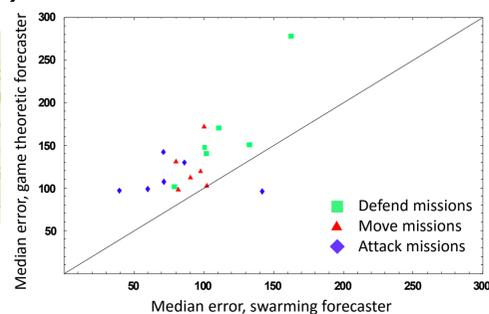
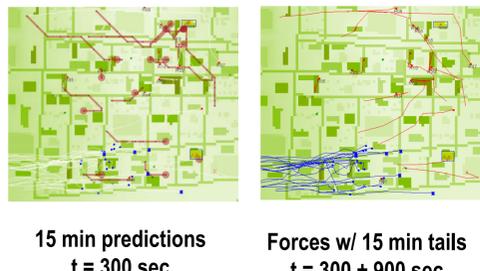
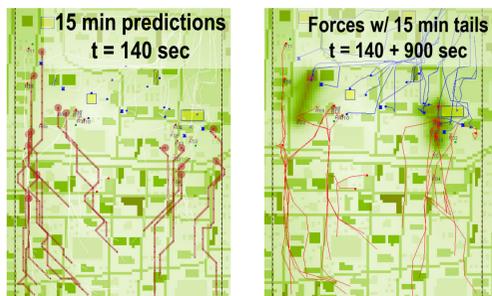
Forward Learning (by evolution against past examples)

Analytic behavior:
by Taylor expansion

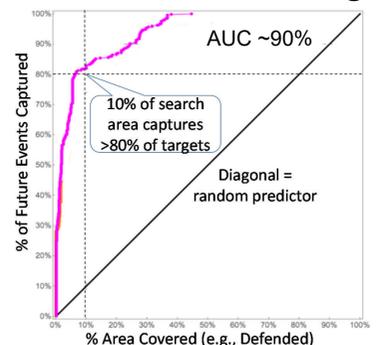


Results: Dominates game-theoretic and Bayesian forecasters in geospatial domains

Forward Learning (DARPA RAID)



Backward Learning



Teaming

We bring

- Graphical Monte Carlo forecasting
- Multi-forecast fusion
- Mature swarming engine
- Tournament mgmt. (ACE prime)

We seek prime with expertise in subject recruiting & management



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