BEHAVIORAL MODELING IN SOCIAL NETWORKS FROM MICRO TO MACRO
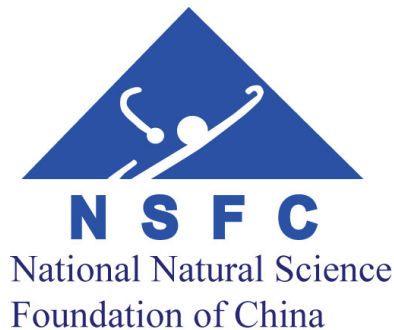
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1867

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Thanks to

TAKE AWAY

Behavior Modeling in Social Networks

Six Disruptive Basic Research Areas, by DOD

Basic Research Areas

- Six Disruptive Basic Research Areas
  - Engineered Materials (metamaterials and plasmonics)
  - Quantum Information and Control
  - Cognitive Neuroscience
  - Nanoscience and Nanoengineering
  - Synthetic Biology
  - Computational Modeling of Human and Social Behavior

From Micro to Macro

Natural behavior
- Individual behavior
- Information cascade

Unnatural/Suspicious behavior
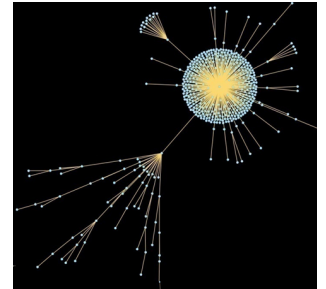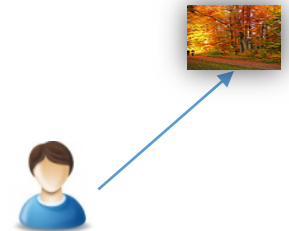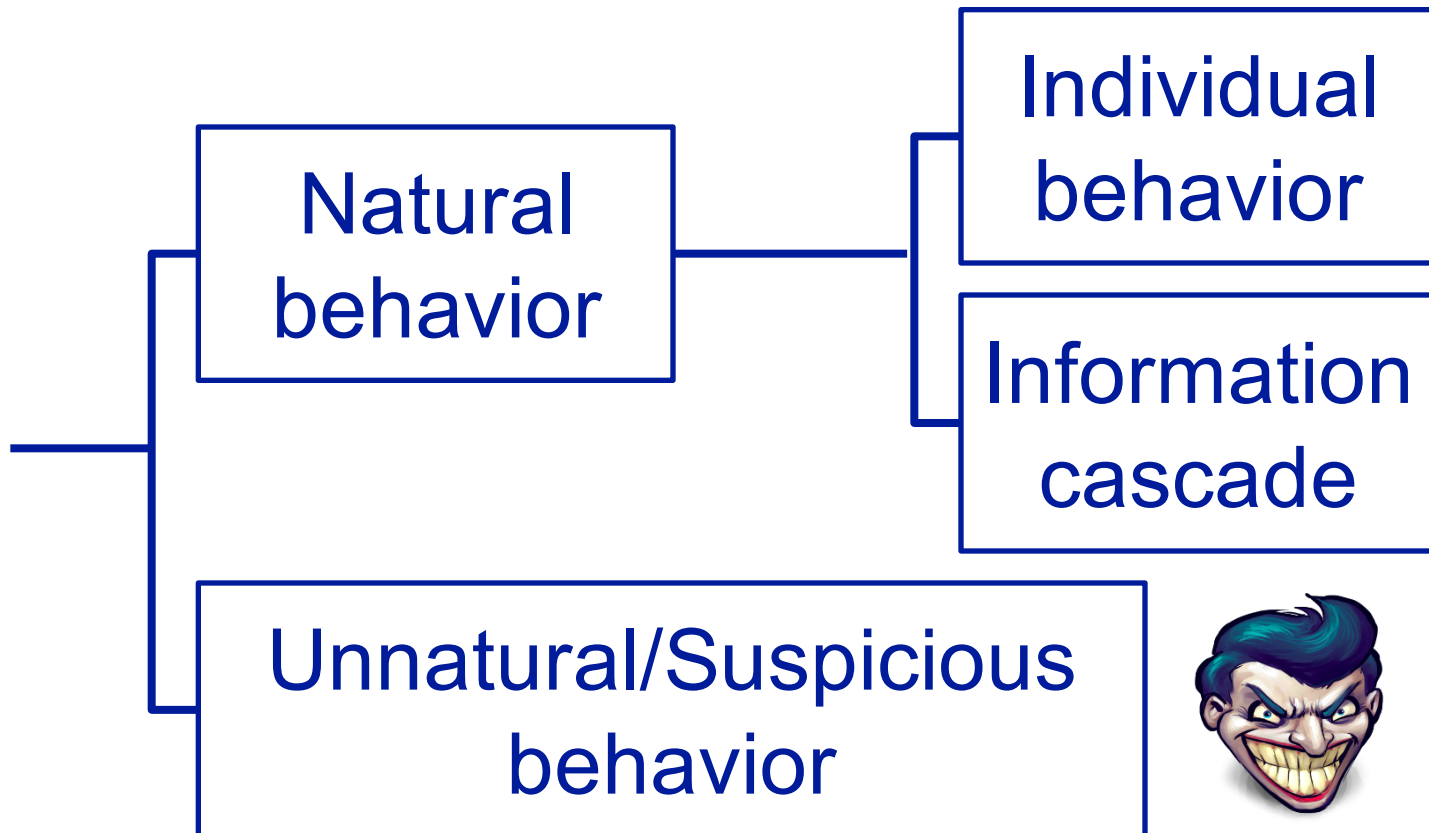
Modeling Individual Behavior

❖Pattern discovery, prediction and social recommendation

❖ContextMF: Social contexts (preference & influence)

❖FEMA: Spatiotemporal contexts (multi-faceted & dynamic)

❖Hybrid Random Walk: Social bridging multiple domains

Modeling Cascading Behavior

❖ Before predicting information spreading, understanding the behavioral mechanism is critical and fundamental.

❖ Behaviors can be modeled in different granularities, which depends on the target problem.

❖ Modeling information spreading with continuous-time model is promising and demonstrated to be effective in our research.

Detecting Unnatural Behavior

❖ Suspicious behavioral patterns
- ❖ Lockstep pattern: CopyCatch, LockInfer
- ❖ Synchronized pattern: CatchSync
- ❖ Multi-dimensional suspiciousness: CrossSpot
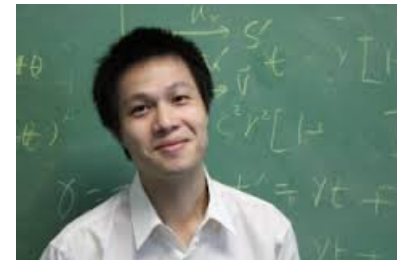
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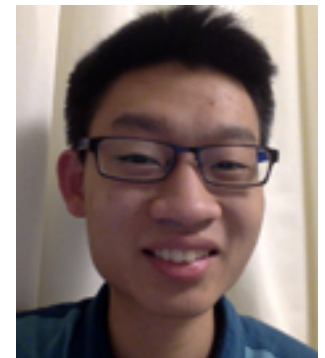
THANK YOU!

Behavior Modeling in Social Networks