A Nervous System for Humanity

Two Minds
Nobel Prize winners Kahneman and Simon: Humans have two minds

Most Human Behavior Is Dominated By Habits, Signals

Reading Behavior and Signals

Honest Signals shape your life

Trust
Outcomes

Results

- Overall Accuracy at classifying Yes/Shows and Yes/NoShows was 78%.
- When predicted a Yes/Show, it was correct 73% of the time.
- When predicted a Yes/NoShow, it was correct 84% of the time.

Predicted vs. Actual

Combine dyadic results to model networks of Influence

- Dyadic data can be used to build models of network influence.
- Estimate 'real-world' transmission probability throughout network.

\[
\mathbf{P}_{ij} = \alpha_{ij} \mathbf{P}_{ij} + (1 - \alpha_{ij}) \mathbf{P}_{ij}^0
\]

Exploring and Exploiting Structure Simultaneously

Inferences on network dynamics

- The influence model can normally attain around 95% accuracy in predicting the latent states for each processes.
- The reconstructed influence matrix has only 9% relative difference with the original one.
- Using only the observations of other processes, we can predict a process’s state with 87% accuracy.

Honest Signals & Traditional Analysis

Honest Signals Exploring (active, variable) Teaming (influence, consist, mimicry) Active listening (mimicry, variable) Leading (active, influence, Consistent)

<table>
<thead>
<tr>
<th>Bales’ Social role</th>
<th>Protagonist</th>
<th>Supporter</th>
<th>Neutral</th>
<th>Attacker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bales’ Task role</td>
<td>Givers</td>
<td>Orienteers</td>
<td>Followers</td>
<td></td>
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</tbody>
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About as good as people...even though people get to hear the words and see the video.

Sensible Organizations

Harvard Business Review: Breakthrough Idea of the Year

Dong, Lepri, Zancanaro, Planesi, and Pentland
**Two Minds**

Nobel Prize winners Kahneman and Simon:
Humans have two minds

- **Habitual (System 1)**
  - Fast
  - Parallel
  - Automatic
- **Attentive (System 2)**
  - Slow
  - Serial
  - Controlled
  - Rule-based

- **Conceptual Representations**
  - Past, Present, Future
  - Can be evoked by language

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**Learning By Example**

Each individual seeks to increase their fitness by communication with their neighbors over time, and imitating the neighbor's choices when adaptive (Cavalli-Sforza et al., 1981)

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**Where Learning Happens**

Learning By Example

BAC Call Center Productivity Study

- \( r = 0.6 \)
- f2f cohesiveness and productivity

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**Discovery and Integration**

- **Diverse** information network helps discovery
  - improves productivity by up to 4%
- **Cohesive** face-to-face helps integration
  - improves productivity by up to 10%

**The Bad**

- No integration
- No discovery

**The Good**

- No integration
- No discovery

**The Great**

- Integration
- Discovery

Best Research Paper, ICIS 2008
**The Winner**
Charismatic Connectors: Good at both discovery and integration

**FunF Platform (Android)**

**FunF BackEnd**

**Out In The Wild**

**Two Minds**
Nobel Prize winners Kahneman and Simon: Humans have two minds

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<th>Process</th>
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Learning By Example
Each individual seeks to increase their fitness by communication with their neighbors over time, and imitating the neighbor’s choices when adaptive (Cavalli-Sforza et al., 1981)
f2f exposure consolidates opinions

- 25% of variance
- Not friends, discussants
- Only rich media: f2f

Tribes
The Next Google - cover Newsweek

Sensible Cities

CitySense
CabSense
Top 10 Internet of Things Product - NY Times

Learning By Example

Distribution of wealth

equality
inequality

hierarchy
The New Deal On Data: You ‘Own’ Your Data

1. You have the right to possess your data.
2. You control the use of your data.
3. You have the right to dispose or distribute your data.

….but there are always ‘taxes’ to support the common good

New Deal Architecture

- Individuals hold personal data in their ‘vault’
- Companies hold anonymized, aggregate, parametric data only…
- Except for specific, explicitly authorized transactions when individual reveals a ‘slice’ of their data.

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