# Schedule for Week 2 of SI 701: Information Theory and Artificial Intelligence

### Meghana & Linfeng

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# 1 Part 1: while Paul is in the room

For the first 80 minutes, Paul will be around.

## 1.1 Opening: summary and stories (30 min)

### 1.1.1 What's new: theory and concepts

- Diagram of Information Source, Transmitter, Noise Source, Receiver, Destination;

- Entropy:

    - Foundation: discrete probability distribution and probability density function;
    - definition (for discrete case).

- Turing test as an (old) standard for Artificial Intelligence

### 1.1.2 Interesting stories from bibliographical reading (10-15 min)

- Inspire, and have people to talk about it. (Rephrase the question)

(The goal is to get people as tomorrow's "PhD in Information" know about something to gossip while talking about how information theory came about.)

## 1.2 Paul's lecturing (15 minutes)

Paul agreed to cover:

- Connection among compression, redundancy and Entropy?

- Comparison among: completing texts (texting on iPhone) and generating text (Turing test)

**Example 1** (An extreme case to understand reduency and compression and "randomness".).
When a message is not yet totally random, it contains redundancy.

## 1.3 Nicole's lecturing + connecting with future materials (15 minutes)

- Connect notion of redundancy and compression to:

  - Common ground;
  - Classification
  - Prospect theory
  - .....................

# 2 Part 2: second 1.5 hours