Semantic features extracted from deep learning is not enough for effective lifelog semantic access.

To bridge the semantic gap, we need:

- **Relevant concepts**: What are the basic semantics relevant to query topics?
- **Feature weighting**: Which feature contributes most to the query?
- **Temporal smoothing**: How to ensure temporal coherence?
- **Post filtering**: How to refine search using location and time?

**Basic Semantics**
- **Object**: ResNet152-ImageNet1K
- **Place**: ResNet152-Place365
- **Object detection**: Faster R-CNN-MSCOCO (80)
- **NTCIR classifier**: VGG16-ImageNet1K (fine-tuned)

**Feature Weighing**
- Conditional Random Field
- Tuned to be adaptable to user and tasks.

**Temporal Smoothing**
- To ensure semantic coherence, a triangular window of size \(w\) is used, where \(w\) is adaptive to users.

**Post-Filtering**
- Increase diversity of retrieved images.
- Use time and location (GPS) to filter images.
- Exclude images that are closer in time and location.

**We achieved an average precision of 57.6% over 20 retrieval topics.**