Predicting Structured Output from Unstructured Input:
- Single Ended Line Testing: Discovering topologies of buried telephone lines from signal echo
- Molecular Structure from mass-spectrometry
- Protein Folding from Amino Acid Sequences
- ...

Predictive (relational) Clustering Trees:

Concept:
Clustering but using a language bias

Implementation:
TDIDT but using a clustering heuristic

Matching a new example with a cluster:
$\exists X: \text{aromatic}_{\text{ring}}(X)$
$\exists Y: \text{alcohol}_{\text{group}}(Y)$

not enough constraints to fix the structure (by definition)

Using a Forest of Clustering Trees:

Generate multiple sets of constraints:
- Different sets of constraints can contain contradictions
- Distance to cluster translates to probability for constraints
- Leaves a set of probabilistic, relational constraints to be solved.

To what extend can SRL contribute to this field?
Are there concrete ideas on how to use existing SRL techniques for this?