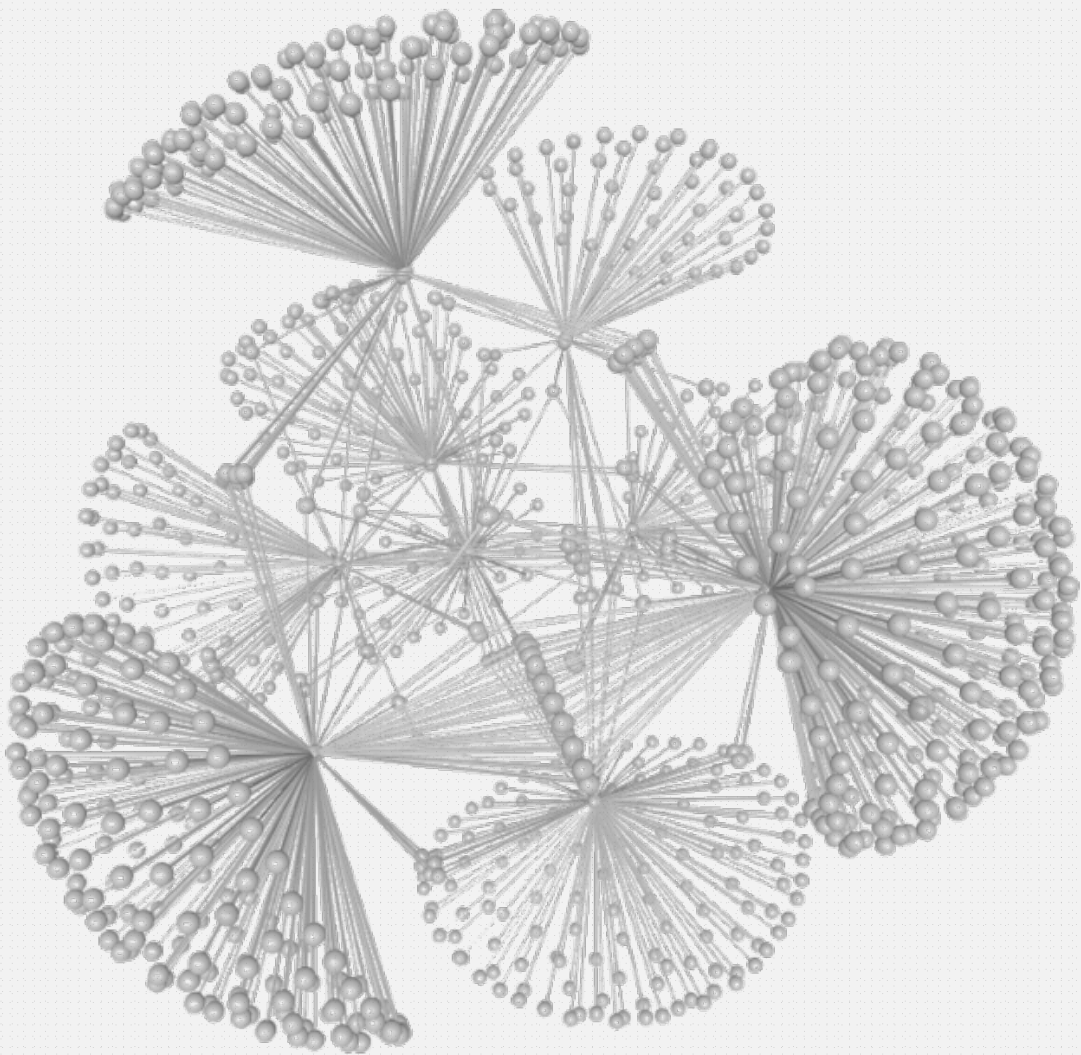


# Probabilistic Programming

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ACADEMISCH JAAR 2020

H05N0A: CAPITA SELECTA : ARTIFICIAL  
INTELLIGENCE

*Below's our solution for the assignment. Each question is answered in a section with the same title as that of the question's. The program used throughout is shown below.*

```

1  person(a). person(b). person(c).
2  0.2::stress(X) :- person(X).
3  0.1::friends(X,Y) :- person(X), person(Y).
4  0.3::smokes(X) :- stress(X).
5  0.4::smokes(X) :- friends(X,Y), smokes(Y).
6  query(smokes(a)).

```

Code snippet 1: PROLOG code used throughout the assignment.

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## Probabilistic Inference Using Weighted Model Counting

### SRL to CNF