Academic career planning using bayesian network

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Abstract

This is the paper's abstract ...

1 Introduction

Using node.js, Dlib C++ Library to build an web application that answers student queries about carrer planning questions.

2 Course Prerequisite Inference

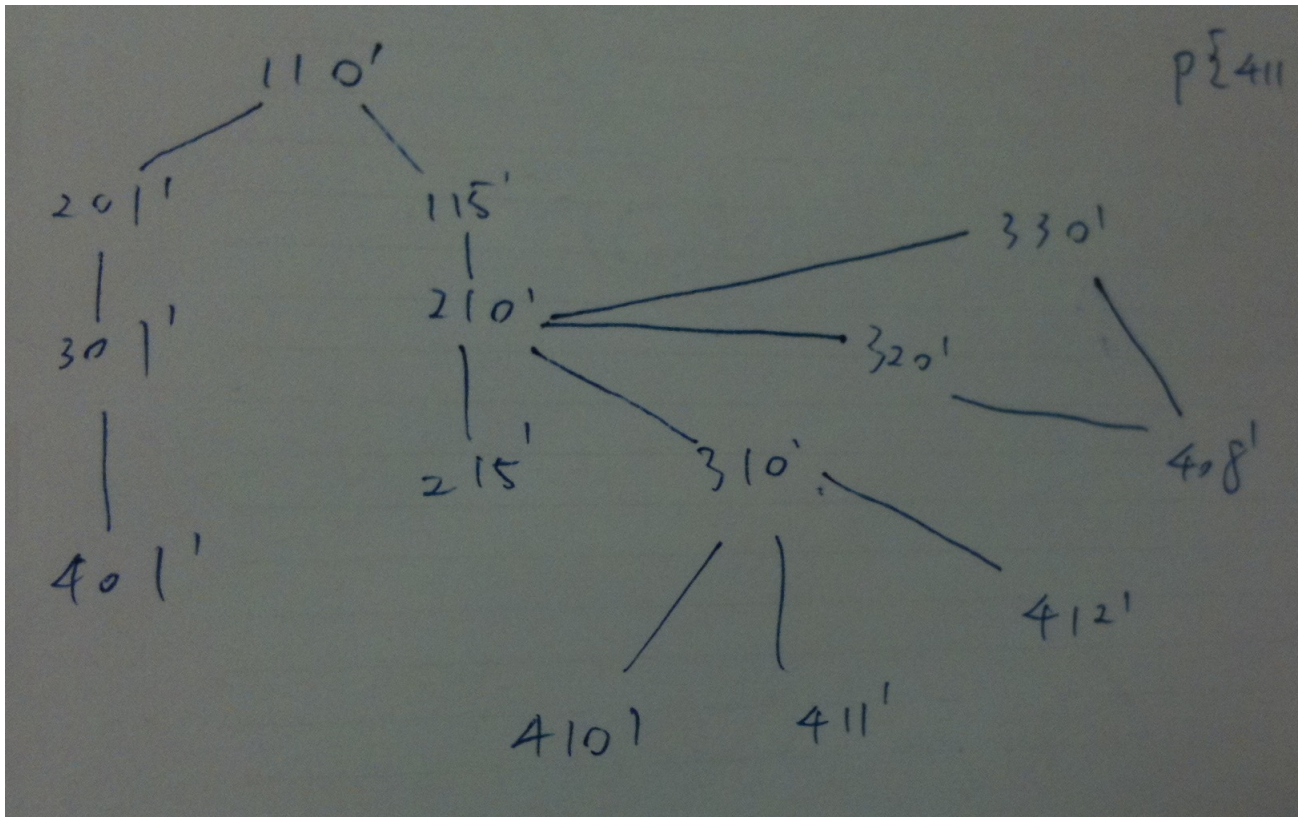Here is a directed acrylic graph A to represent the course prerequisite relations.

Figure 1.1

i.e Querying the probability of taking CS411 in the future, provided student have taken CS110:

1. Search the shortest path between $110'$ to $411'$ in A

2. Which is $110'->115'->210'->310'->411'$

3. The length of this path is 4, which means student needs at least 4 semesters to finish CS411, provided there is no class not bing offered during these semesters.

4. If there are classes in the path not being offered, we need to add extra semesters accordingly.

5. Run JTP on A, query $P\{CS411 = 1 \mid CS110 = 1\}$

6. Provide feedback to student, telling the least semesters he need to finish

CS411 with a probability.

3 Program Requirement

A Program Requirement node would be an auxiliary node. Again, using
Graph A in Figure 1.1 as an example
If it requires 110, 210, 201, 310 330, two of the 400 levels and 120 credit
hours to graduate:

1. An auxiliary node "Required Courses", which has the parents of 110,
   210, 201, 310, 330

2. An auxiliary node "400 level courses", which has the parents of all 400
   levels classes

3. An auxiliary node "120 Credit hours"

4 Results

In this section we describe the results.

5 Conclusions

We worked hard, and achieved very little.