Descriptive Project Title

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October 2, 2017

Abstract

Include a 250 word (maximum) abstract that addresses the following questions:

- What BIG question are you trying to answer?
- Why is this question interesting/useful?
- Which methods will you use to answer this question?
- What data sets will you use?
- What performance measure will you use to analyze performance?

Every semester, approximately 5-10 students are waitlisted in popular computer science courses. Additionally, not a lot of students are confident about what they hope to accomplish by completing a course they register for. As the so-called "hot technologies" are constantly changing, students are seeking to enroll in such courses to help keep up with the technology. Thus, it would be useful to the students and the CS department at SJSU if they could get information about the top technologies as well as the predicted demand for future courses. We propose a solution to the above problems by building an intelligent agent that can predict demand for CS graduate courses, suggest workshop topics, and list topics for CS 286 or CS 185C. We plan to collect information from professors, department chair, students, online course syllabi, education and training data from the Bureau of Labor and Statistics, and Glassdoor. If successful, our product could help the CS department predict course demand, get an insight into popular CS topics, and it could help CS graduate students make better course choices and help prepare for their career. In order to measure our agent's performance, we

1 Introduction

Long waitlists for CS graduate courses is the main motivation behind this proposal. With limited supply of professors and classrooms, it becomes a challenge to estimate a demand for courses mainly due to the fact that many students hope to register for courses that teach technologies currently in demand. Thus,

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we hope to automate the task of predicting demand based on past waitlists and current technologies.

In the second paragraph, describe any research or products that deal with similar questions or problems. Make sure to cite all primary references, for example [1].

In the third paragraph, explain how your project will differ from work described in the preceding paragraph.

2 Materials and Methods

Explain in details how you will accomplish your goal. Provide as many details on which tools will be used to collect the data; which programming language and modules will be used to build your agents. Include a detailed description of your agent by specifying the following:

2.1 Environment

The expected environment in which the agent will operate will be San Jose State University. Specifically, the agent will operate on CS grad courses offered by the CS department at SJSU.

2.2 Sensors

How will the Agent sense the percepts from the Environment

2.3 Percepts

Percepts will be passed to the agent, and these percepts represent the information regarding CS course topics or workshop topics. Example percepts include: {'information retrieval', 'decision analysis', 'machine learning'}

2.4 Actuators

Describe which actuators will be used and what will be sent by the Agent back to the Environment.

2.5 Performance Measures

Describe at least two performance measures that you will use to analyze your agent.

3 Experiments

Describe in detail how you will test/evaluate your project. If the project is technology-driven, it must be tested with real users to obtain performance mea-

sures. E.g. if you are developing a mobile app for building custom-made online boot camps for technical skills, it must be tested with at least 10 different users to collect feedback on your new technology.

If you are doing programming-driven project, describe in details the data sets which will be used and make sure to provide citations to the original source, such as [2].

We will thoroughly test our application during the last two weeks before our final project deliverable. During this test phase, our team will test the project after which our users will test it. These users will consist of students and professors, and we will collect feedback on our application.

References

[1] A. Einstein, "Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]," *Annalen der Physik*, vol. 322, no. 10, pp. 891–921, 1905.

[2] D. Knuth, "Knuth: Computers and typesetting."