

UHCL NSF Scholar Undergraduate Research Project

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Research is about finding new insight and novel solutions for new and existing problems. Since we all gain insight and solve problems in our life, everyone has the ability to conduct research. Of course the more we know about a subject, the deeper and more effective research can be. On the other hand, you can conduct research even if you are a beginner.

Some sample potential research topics for NSF scholars.

[1] Effectiveness of STEM scholarship [All majors]

The current STEM crisis in US results in a large increase in resources for STEM education in the last five years. However, there is very little work done on studying STEM scholarship. With nine years of experience in conducting STEM scholarship program, we are in a good position to study STEM education in general and STEM scholarship in particular. We have published two papers in this subject based on our own experience and would like to expand this research to cover scholarship programs in the nation.

[2] Meta-analysis of the use of free and open source software (FOSS) in university [CS, CIS, IT]

The use of FOSS is wide spread. There are many papers describing the uses of FOSS in computing and information systems courses and curriculum. However, there is a lack of a meta-analysis to provide an overview of what, when, where, why, who and how FOSS are used.

[3] Data structure visualization using tablets (e.g. iPad) [CS, CIS]

Many data structure visualization tools are now available. As tablet computing is becoming ubiquitous, these tools are increasingly available in iPad and other mobile tablets. In this project, a prototype mobile application will be developed to visualize the concept and dynamic behavior of a selected data structure.

[4] Study of the relationship between blogging, reviews and revenues of movies [CIS, CS]

Parameters affecting movie box offices are well studied. In this study, we take advantage of Web 2.0 data and study the blogging, reviews and revenues of movies. Parameters such as volume, sentiment, time lag, etc. will be used. Data will be obtained through sites such as Blogpulse, box office mojo, Ice rocket, etc. The result is targeted for uses in conducting social network marketing.

[5] Capstone experience of IT students [IT,CIS]

Information Technology degree programs become more popular in the US in the last ten years. However, it is still very new and much work is needed to grow these kinds of programs. UHCL launched its BAS-IT program in Fall 2010 and is interested to study how to provide effective capstone experience to its IT students. In this study, students will conduct literature reviews and develop an effective capstone experience program.