UNDERGRADUATES PURSUING RESEARCH IN SCIENCE AND ENGINEERING (UPRISE)

INFORMATION TECHNOLOGY CLERMONT COLLEGE, BLT DEPARTMENT

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE WOMEN

APPLICATION DEADLINE: 01/05/2018

PROJECT TITLE: <u>Identifying and Implementing an Automated System to Detect Plagiarism</u> <u>in Computer Programming Classes</u>

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Project Description

Plagiarism is a fact of life in computer programming courses. Manually identifying plagiarism becomes problematic as class sizes increase. The purpose of this project is: research available tools for detecting plagiarism in computer programming assignments, identify an appropriate tool, install the tool on a university server, and make it available to professors teaching programming courses.

The IT Program at Clermont College includes hands-on programming courses in C#, Java, SQL, JavaScript, and php. Students are assigned programming exercises in all these languages. Large numbers of assignments and students have resulted in the development of automated systems to detect code similarities with the intent of identifying possible plagiarism. Automated plagiarism detection systems are not all the same. They produce different results, use different algorithms, and impose various hardware/software requirements. The current state of plagiarism detection has given rise to research summarizing the research.

The specific research questions of this project are: what are the requirements of computer programming teachers at Clermont College to detect plagiarism in their classes, what system can meet these requirements and be installed on currently available computers in the Clermont College network, and how effective is the selected system in detecting plagiarism? The research contributions are: collation and organization of the plagiarism-detection requirements of computer programming teachers at Clermont College, identification of a system meeting the requirements, installation of that system on the Clermont College network, case studies built from student submissions and manually created examples and testing of the system using the case-studies.

The WISE student will work with the professors in the IT Program to identify

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specific requirements for plagiarism detection, research scholarly publications relative to plagiarism detection systems and identify an appropriate system, install the plagiarism system on a computer in the Clermont College network and make it available to all instructors of computer programming classes, and develop, execute, and evaluate the results of casestudies.