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Taylor University

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Taylor Gets $75k Grant Extension from Lockheed Martin for Malware Research

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Aerospace and defense industry company Lockheed Martin has granted a $75,000 renewal of a grant to the Taylor University Computer Science (CSE) Department as part of a multi-year partnership to create cybersecurity solutions. The grant comes a little more than a year after the preliminary $100,000 grant from Lockheed Martin Advanced Technology Labs for research work done in 2017.

According to Taylor faculty members, a number of Taylor CSE students and faculty worked on the project during the 2017 spring and fall semesters, and also during the summer. A team of five students and two faculty members did a presentation at a Lockheed facility in Arlington, Virginia, in December 2017, and were commended for successful completion of the project.

The project's renewal for the 2018 calendar year is to investigate additional issues related to malware. Four students, three of them in the cybersecurity major, and one faculty member (Dr. Jonathan Geisler) are working on the project this spring and will continue to perform work during the summer and fall months.

"The opportunity to participate in this type of research is uncommon at the undergraduate level and represents an excellent educational experience; the Taylor computer science and cybersecurity students graduate with the knowledge, experience, and competence typical of students in the first year of graduate school. This type of work is possible because of the degree of faculty investment and the good faculty-to-student ratio," said Dr. Stefan Brandle, Professor of Computer Science and Engineering at Taylor.

Dr. Dannie Stanley, Assistant Professor of Computer Science and Engineering and the principal investigator, said the students' performance on the project has impressed him and his faculty colleagues.

"The students exceeded my expectations. The research is open-ended and the work is advanced so I wasn't sure what to expect," Stanley said. "I set a stretch goal at the beginning of the summer for the entire summer. Then, I went away for a 10-day break. When I came back they had nearly completed the goal. Not only were they prepared to do the work, they were able to do much of it without a lot of faculty intervention. They did a good job educating each other. We faculty were scrambling administratively to keep up with their rate of output.

"I am constantly trying to get my students to own their learning," Stanley added. "If they are intrinsically motivated, they will learn more than if they are merely performing for some external reward such as grades. Working with malware is naturally intriguing for many of us and provides such motivation. To be clear, we are not advocating the creation of malware. Rather, in studying how malware causes a system to misbehave we learn about how to mount a proper defense."

Lockheed Martin's headquarters are in Bethesda, Maryland, and the company specializes in aerospace and defense, energy and space, and global technologies. The grant is the latest development in an ongoing relationship with Lockheed Martin and Taylor's CSE students and faculty, who have previously performed proprietary research and cyber testing.

The announcement of the grant extension comes nearly 15 months after the institution of a new cybersecurity major at Taylor.