

Helping Doctors Treat Patients

Professor's research sets groundwork for more effective care

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By: Ali Reiner

It's not every day that a software program can learn to read the abstracts from medical research papers, pick apart key elements and find the best medical treatment options for patients. In fact, Rodney Summerscales, assistant professor of computer science at Andrews University, was the first in scientific history to take on the challenge of creating such a program as his dissertation project.

Summerscales named his software program ACRES, which stands for Automatic Clinical Result Extraction and Summarization.

We all want physicians to prescribe effective, scientifically proven treatments for us as their patients. However, doctors are very busy people. They see many patients and don't have the time to sift through the vast amounts of medical research out there.

“What we need is an automatic tool that can identify the results of these clinical trials and do a little bit of analysis ahead of time and then present only that most helpful information to doctors,” said Summerscales.

In order to figure out the best plan of treatment for patients, ACRES looks through medical research papers and data for specific information. This information includes the names of the treatment groups, the sizes of those treatment groups, the outcomes that were measured and how many people experienced a good versus bad outcome. In essence, ACRES is really a tool for sifting through the world’s great sea of scientific literature.

It has taken Summerscales almost six years of hard work and dedication to develop his prototype research project. And he says he isn’t finished just yet.

“There’s always the task of making it better,” he says. “For it to actually make it into the real world, we have to spend more time developing it—making it a nice, polished software tool that people can use.”

There is also a need for vast resources and full-time work to be done on ACRES in order for it to be completely finished. In the meantime, ACRES is a published research project that people can find online and cite for their own research.

“As a research contribution, it’s certainly something that people are noticing,” says Summerscales. “There is hope that someone can take some of these ideas and build on them. I do think ACRES has promise for helping doctors search for information and find the best treatments for their patients.”

Summerscales currently has a number of other research projects he is working on with his graduate students and fellow coworkers. One of these projects involves working with Oliver Glanz, assistant professor of Old Testament in the Seminary, to extend an online program that helps people translate biblical Hebrew.

To read the abstract for Summerscales’ research and development of ACRES, visit the [Digital Commons @ Andrews](#). For more information on the Andrews University Department of Engineering & Computer Science, visit andrews.edu/cas/ecs/, email engineering@andrews.edu or call 269-471-3420.

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