

# Engineering solutions to society's problems

May 2 2014, by Keith Hautala

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Can engineering help people live better lives? Can it help to preserve our most deeply held values? University of Kentucky researcher Samson Cheung thinks so. He researches how technology can be used to help people in very realistic and immediate ways.

An associate professor in the UK Department of Electrical and Computer Engineering and faculty member of the Center for Visualization and Virtual Environments (the Vis Center), the major theme of his [research](#) is in the area of using multimedia image processing and signal processing to help solve societal problems.

Cheung has two main areas of research. The first area of interest is in privacy concerns related to multimedia.

"We can use technology to, at the same time, provide the necessary security for the government or the military to do their jobs, while still protecting our civil liberties and our privacy, all the values that we cherish as a nation," Cheung says.

He and his team are investigating a new computational framework for encrypted multimedia processing. The framework is being used in novel applications such as biometric matching, object detection, speech analysis and video surveillance.

His second area of interest has developed out of a personal interest in developing assistive technology for people with autism.

"That got started with my son, who was diagnosed as autistic," Cheung said. "I think engineering can be a big part of helping him. Kids nowadays really love all the [technology](#), all the gadgets and all the toys, and that could be a very good way to help him and other people like him."

This project is an interdisciplinary, integrated research and education program to develop novel technologies in manipulating mirror images, aimed at studying and enabling behavioral modeling of children with an autism spectrum disorder.

Provided by University of Kentucky

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