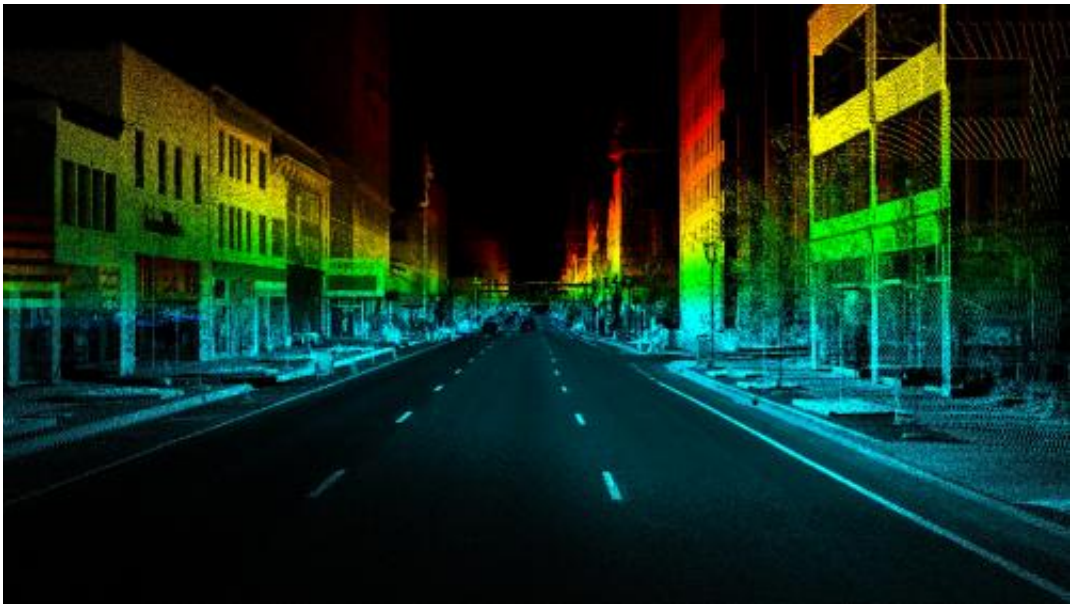
Capturing the world in three dimensions

March 26 2014, by Keith Hautala



UK computer science Professor Ruigang Yang works to create real-time three-dimensional images from vehicle-mounted video sources.

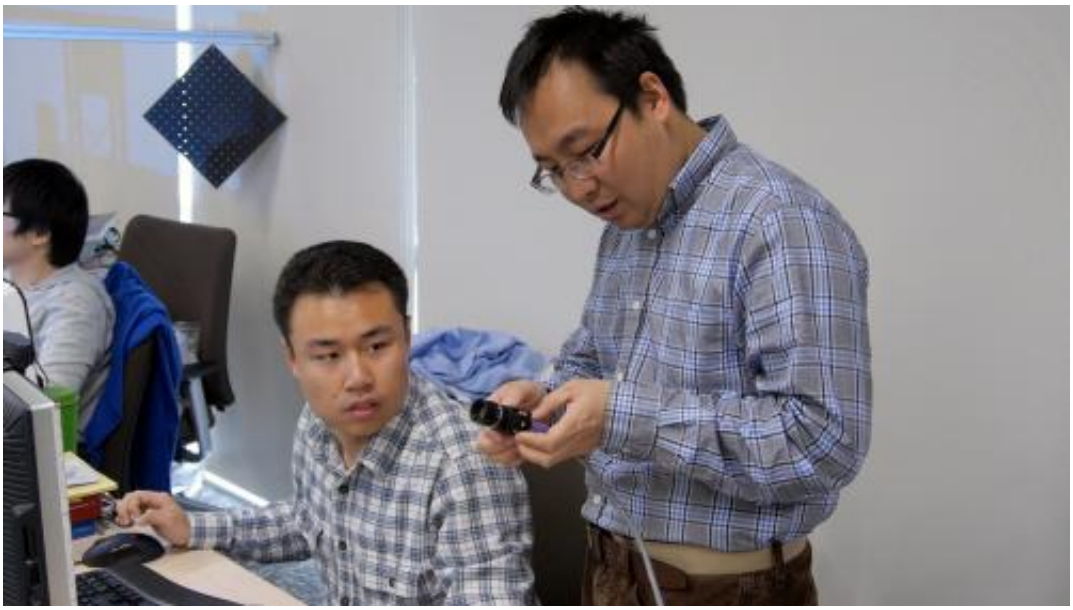
A picture may be worth 1,000 words, but a high-definition 3D image could be worth a whole lot more.

Ruigang Yang, associate professor in the University of Kentucky Department of Computer Science, is working to develop new ways to capture the world around us in three dimensions. His research is in 3D reconstruction, modeling and visualization.

Yang's work is focused on creating systems to capture visual data in

three dimensions as well as understand the content inside of the data. Yang says that, just as color photography superseded black-and-white, 3D imaging will one day create new capablities that are unattainable with today's two-dimensional imaging technology.

From his beginnings working on "telepresence" applications for remote collaboration, Yang developed new sensors and algorithms for 3D imaging. Then, setting his sights on a larger scale than the office environment, Yang turned his attention to creating real-time 3D images from vehicle-mounted video sources.



Ruigang Yang works with advanced imaging sensors and algorithms to produce complex, data-packed 3D images in real time.

This type of research has many applications, for example, in creating three-dimensional street views (like Google Street View, but in 3D) or even enabling consumers to create their own avatars with a cellphone.

Provided by University of Kentucky