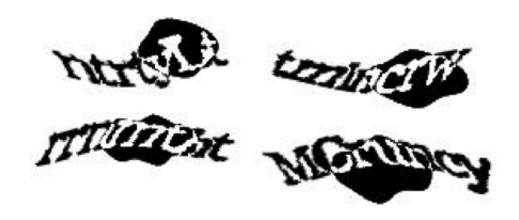# Google's Street View address reading software also able to decipher CAPTCHAs

April 17 2014, by Bob Yirka

CAPTCHA images correctly solved by the algorithm

(Phys.org) —Google engineers working on software to automatically read home and business addresses off photographs taken by Street View vehicles, have created a product so good that not only can it be used for address reading, it can solve CAPTCHAs, as well.

CAPTCHAs are, of course, words that have been intentionally distorted presented to live humans who wish to enter a web site—to gain access, they must correctly type the word into a box. CAPTCHAs are believed to be difficult if not impossible for spam bots to decipher, thus they serve to protect the site—at least for now.

It's sort of ironic actually, that software has inadvertently been created

that thwarts the efforts of other software engineers attempting to keep spam bots from accessing web sites. The finding was posted by Google Product Manager Vinay Shet on the Google blog.

To make Google Street View (part of Google Maps) ever smarter, engineers have been hard at work developing a sophisticated neural network based on both prior research and new image recognition techniques. The aim is to make Google's products more accurate. To display an image of a house or building given an address by a user takes a lot of computer smarts—Google connects new addresses to older known addresses, constantly updating its databases. Presumably, the goal is to map every building in the known world to an address. But the work has produced an unexpected by-product, the very same software developed for Street View can also be used to decipher CAPTCHAs with 96 percent accuracy (98.8 percent when working on Google's own reCAPTCHA).

Street View numbers correctly identified by the algorithm

This is good news, Shet writes, because it highlights a weakness in CAPTCHA as a means of protecting web sites. Google, he notes, has already added new hurdles for humans to jump before allowing entry, enough to keep bots, and presumably Street View neural network software, out as well. Not mentioned is if Google is perhaps also working on learning why it is that so many people and enterprises are working so diligently on creating spam bots and if something might be done to persuade them to aim their efforts at more profitable ventures.

  More information: Google Blog post: googleonlinesecurity.blogspot.… tcha-technology.html
Arxiv paper: arxiv.org/pdf/1312.6082v4.pdf