**6365 Project Phase 2 Report**

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**Project:** Captcha attack with Convolutional Neural Network

**Tasks completed:**

* Powerpoint on article started [<link>](https://docs.google.com/presentation/d/1GQRCyE3IMvEYSVaQUmSpqnHcoO210_kV6U0PhZ0bFdI/edit?usp=sharing)
* Github created to collaborate with team <https://github.com/sccirlos/captcha_solver>
* Project started
  + Dataset created
    - 10,000 PNG images of captchas with the correct  answer in the filename
    - Only four numbers/letters per captcha
  + Automated image processing
    - findContours() - openCV
  + Extracted single letters from captchas

**Tasks/goals for 11/18-11/20:**

* Complete powerpoint slides on article
* Begin adding slides on final captcha solver
  + Include a couple slides of description of convolutional neural networks, GANs
  + Include screenshots of captchas (pre and post solved) and code
* Start writing a rough draft of the final project report
* Project
  + Make adjustments for warped and overlapping letters/numbers
    - Check for widths > heights of contour area?
      * Create helper functions
    - Finish training model
  + Add modifications to solve for
    - Variable number of characters
    - Multiple words
  + Push code to github repo

**Current challenges:**

* Need datasets:
  + Variable number of letters/numbers
  + Multiple words
* How to predict how many characters in a CAPTCHA to determine what model to use?