

Taymer Computer Vision Challenge

The Taymer Challenge it is a programming challenge to test your programming skills and basic image processing fundamentals.

Please take the time to read the instructions well.

Be sure to ask us any questions if you may have. It is better to ask than to do the wrong thing.

Please send us your source code as well as a Windows compatible executable. We require development in C/C++.

Recommended Environment: Visual Studio VC++ IDE with the MFC package and OpenCV 2.4.5

Instructions

The challenge is a fundamental image processing problem that also requires Windows environment development familiarity.

At Taymer, we build high-end computer vision systems that inspect quality on high speed production lines for continuous products, such as cable. One of the goals of our vision systems is to inspect for surface defects on cable products.

Attached images show what typical defects may look like on a cable we inspect.

In your program, we would like to browse through directories and import one of these images for basic image processing algorithms.

Upon selecting an image, your program should display the imported image.

Upon pressing button A, your software should (example result image on next page):

- a) Measure and Display the diameter (in pixels) of the cable at 3 different points along the cable
- b) Display the points of measurement on the image.

Upon pressing button B, your software should (example result image on next page):

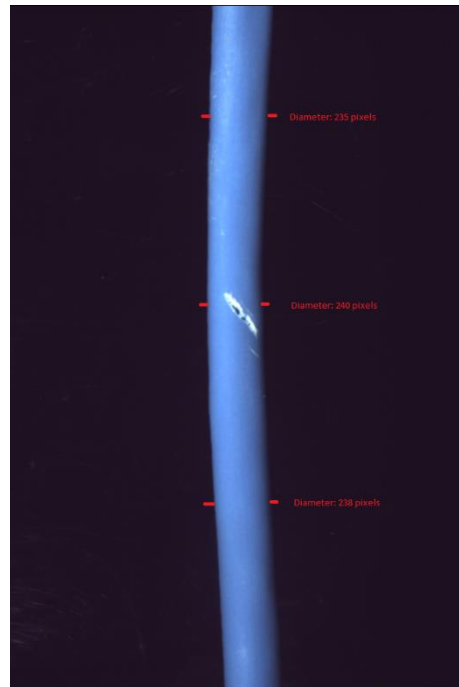
- a) Circle the defect on the cable image.
- b) Classify the defect as either Pin Hole, Cut or Scratch.
- c) Export processed image as defectoutput.jpg.

We are looking for the following:

- Program performs as described.
- Code organization and readability.
- Image processing and computer vision fundamentals.
- Familiarity with Windows environment development.
- An organized and clear thought process.
- Completion is great but the explanation of thinking process is more valuable.

Good Luck and Have Fun 😊

Button A: Example Result Image (pixel number measurements are arbitrary in below image)



Button B: Example Result Image

