

## 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 carefully. Be sure to ask us any questions you may have. **Please do not share or publish your solution online.**

### Instructions

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 objectives of our vision systems is to inspect all kinds of surface defects on various products. The challenge presented below is a fundamental image processing problem that is commonly seen in our work.

**Full completion is not required to successfully complete the Computer Vision Challenge. We are more interested in detailed and thorough explanations on your thought process and how you would approach solving each question.**

Recommended Environment: Visual Studio VC++ IDE with OpenCV 4.1 or higher

- 1) Measure the diameter (in pixels) of the cable at 3 different points along the cable. You may use any of the four images provided. Save the processed image. (i.e. diameteroutput.jpg)
- 2) Circle the defects on each cable image (example images on next page). Save and number each processed image. (i.e. defectoutput1.jpg)
- 3) Classify each defect as either Pin Hole, Cut or Scratch. Save and number each processed image. (i.e. classifyoutput1.jpg)

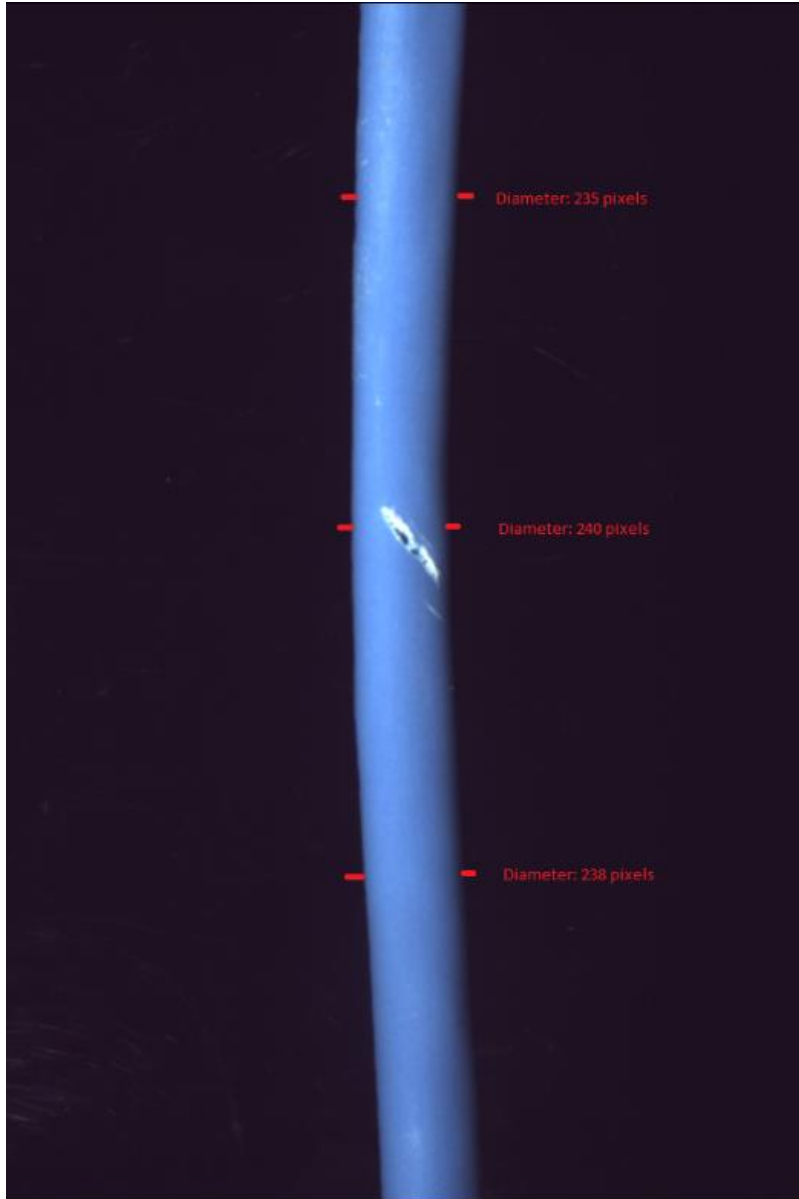
We are looking for the following:

- Program performs as described.
- Code organization and readability.
- Image processing and computer vision fundamentals.
- An organized and clear thought process.

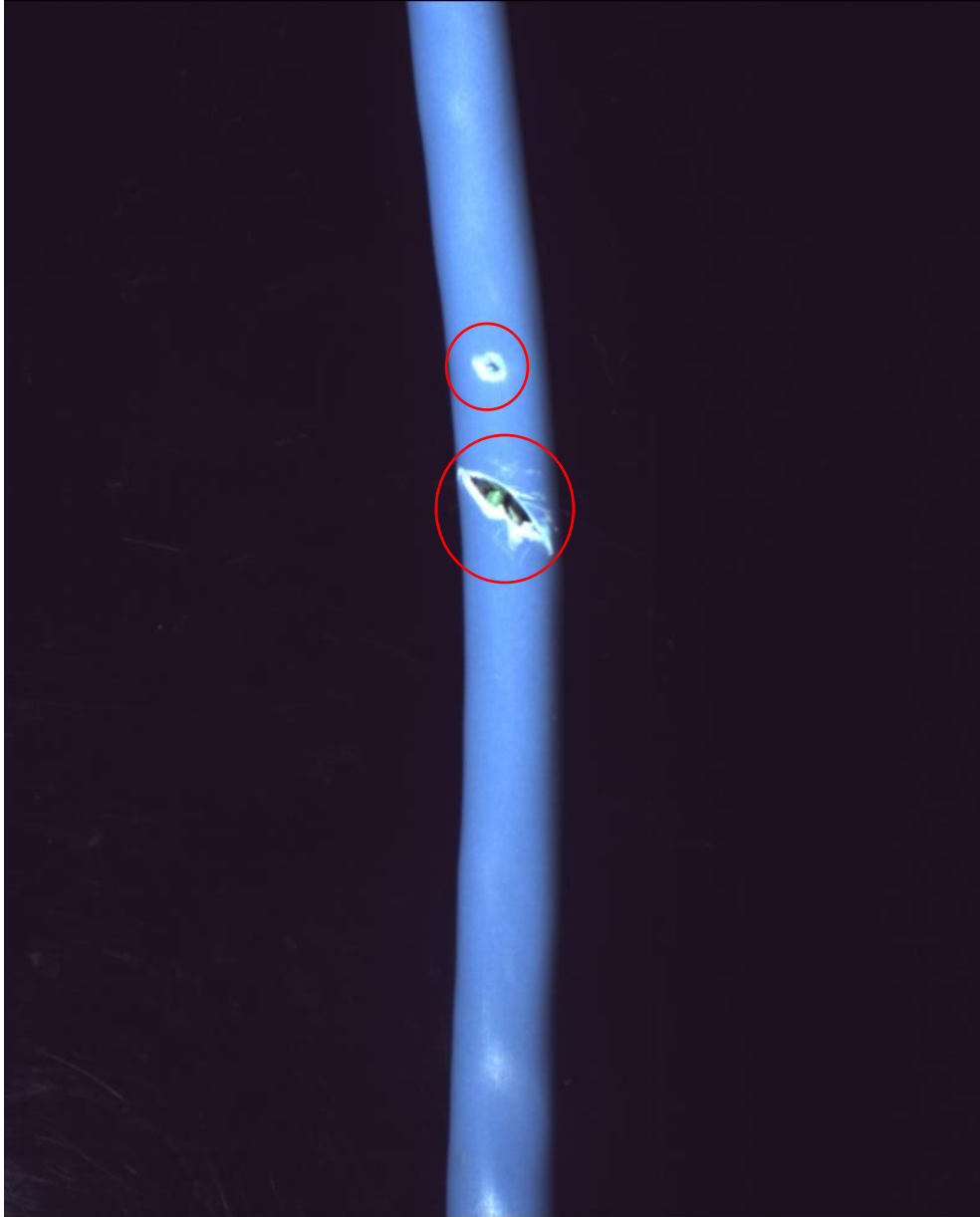
When submitting your solution, please share full source code and any instructions, notes or other information that would assist with running and understanding your solution.

Good Luck and Have Fun ☺

Question 1: Example Result Image (pixel number measurements are arbitrary in below image)



Question 2: Example Result Image



Question 3: Example Result Image

