

Please complete the following task. Use whatever tools you find appropriate (using the Internet, for example, is assumed) but we expect original work. Linux, C++, Python, CMake, Qt, and OpenCV are preferred for development but you may use other tools if you are not familiar with these.

Please include the following support material

- A discussion of your approach and all the assumptions and tradeoffs that you made
- Any build configuration files and instructions for compiling
- A list of any packages/utilities required to build and execute your solution
- Any test code, or test data sets you generated
- References to other materials as appropriate

Please do not spend more than 8-10 hours on this task and feel free to ask questions. While we would love to see a completed product, we expect that your final solution may not be completely “finished” in the available time. We are more interested in seeing how you approach a problem, how you manage the deadline, how you communicate about your work, and the quality of your work product.