**Comp209 Grey Literature**

**Content summary and** **Citation:**

(“Computer Vision For Everyone — Object Tracking With YOLO and Python | by Alex | Medium,” n.d. (The article explains how to use YOLO and Python for real-time object tracking, covering setup, detection, and tracking methods. It also discusses improving accuracy with techniques like DeepSORT and Kalman Filters, which can help track hand movements for controlling the prism structure in your project.)

“Detect an object with OpenCV-Python,” 16:13:52+00:00 (The article explains how to use OpenCV-Python for object detection, covering image processing, contour detection, and feature extraction. It provides code examples for detecting objects in images and videos, which can help identify and track hand movements for your project.)

*FK and IK Explained - Which One to Use and When?*, 2018; (The video explains Forward Kinematics (FK) and Inverse Kinematics (IK), comparing their uses in animation and robotics. It covers when to use FK for natural motion and IK for precise end-effector control, which is useful for smoothly adjusting the prism structure based on hand movements in your project.)

*Inverse kinematics. Explaining every step*, 2021; (The video explains Inverse Kinematics (IK) step by step, showing how to position joints to reach a target in animations and robotics. It covers the mathematical approach and implementation, which is useful for controlling the prism structure’s movement based on hand tracking in your project.)

“Kinematics,” n.d.; Khalil et al., 2022 (In this pdf in this chapter on Robot Kinematics discusses how kinematics models the relationship between a robot's joint coordinates and its spatial layout, focusing on problems like positioning and movement design. It covers concepts such as configuration space, workspace, and forward kinematics, which can be applied to control and predict the movement of your prism structure based on hand tracking.))

**Bibliography:**

1. Computer Vision For Everyone — Object Tracking With YOLO and Python | by Alex | Medium [WWW Document], n.d. URL https://medium.com/@alexfoleydevops/computer-vision-for-everyone-object-tracking-with-yolo-and-python-ca00ec9a87da#id\_token=eyJhbGciOiJSUzI1NiIsImtpZCI6ImZhMDcyZjc1Nzg0NjQyNjE1MDg3YzcxODJjMTAxMzQxZTE4ZjdhM2EiLCJ0eXAiOiJKV1QifQ..MTVu219D5Pk64oVM7f8P5ikEhR9XzXhc7Ed\_dS-fLhusCDgVefsUKunuXiauGwhkhTV163DCh43YPX9BFyIqZ3DDsgV334z7vdYJBWuQMFrlPZs0YsN--WfuDd7vBHRCMinLExbGVgVoeOrx-cN0vMdTAL6G4wjwOrspDPSk2YhZYbkypWHORncpgKN9oo1mScv9xHzfoHh6f-gzQUAU\_cb7MwVd8PRYIDe1C6WbsuTcv1Cc6g4nS8TCj\_Ya5M0gFUjuZBA43ySwnveTDgOBQT19Qaj\_Q-7qB1bWaH0OqeLMw-uqDuNXI0sRu78XbL8lACEEXYweyUMMk3OHPVASYg (accessed 2.2.25).
2. Detect an object with OpenCV-Python [WWW Document], 16:13:52+00:00. . GeeksforGeeks. URL https://www.geeksforgeeks.org/detect-an-object-with-opencv-python/ (accessed 2.2.25).
3. FK and IK Explained - Which One to Use and When?, 2018.
4. Inverse kinematics. Explaining every step, 2021.
5. Khalil, M.M., Masuda, N., Takayama, K., Mashimo, T., 2022. A Small In-Pipe Inspection Robot with Integrated Holding Force Mechanism, in: 2022 7th International Conference on Robotics and Automation Engineering (ICRAE). Presented at the 2022 7th International Conference on Robotics and Automation Engineering (ICRAE), pp. 247–253. https://doi.org/10.1109/ICRAE56463.2022.10054618
6. Kinematics [WWW Document], n.d. URL http://motion.pratt.duke.edu/RoboticSystems/Kinematics.html (accessed 2.2.25).