

## Homework 5 (100 points)

- 1) Watch the video <https://www.youtube.com/watch?v=G39dVoiivZk>
  - a. Apply the technique on total variation denoising to Cryo\_EM\_Image1 and Cryo\_EM\_Image2
  - b. Show intermediate results after every 2-3 iterations/
- 2) Extract the largest object in the CoffeeBeans Image.
  - a. You need to threshold, find connected components, and extract the large object
  - b. Extract its boundary
  - c. Compute curvature along the boundary with  $\sigma = 2$ , and plot the curvature
  - d. Rotate (b) by 30 degrees and recompute the curvature along the boundary. Did the value of curvature change along the boundary?