To Do List for Coding:

1. Custom Particle Tracking
   1. Read Image Metadata
   2. Identify Objects
      1. X, Y, Z positional information (subpixel)
      2. XY Plane Outlines
      3. Intensity Values
      4. Index Number ordered by row->column
      5. Assign a Quality
   3. Link objects from frame to frame
      1. Record ‘Trajectory’ Information
      2. Use trajectory information as second ‘Quality’ parameter
      3. Use Quality information to remove false positives
2. Track Z-Displacements
   1. Use intensity information to approximate reference state
      1. Use fits to approximate sub-pixel z location of feature centroids
      2. Use average fit around pillar of interest to create reference for deformed pillars
3. Generate Strain Information from shear and normal displacements
   1. Update outputs to reflect both types of deformation
   2. Update outputs to reflect strain instead of displacement
4. Generate hexahedral elements using centroid information for reference and deformed cases
   1. Create input mesh file for FEBio
5. GUI
   1. Qualitative assessments of pre-processed/processed images
   2. Batch Processing
   3. Publishable and user-friendly code.
6. Update/Clean/Improve existing code