1. Image processing
   1. Input
      1. lots of images (call this x)
         1. 2 versions of code
            1. GIF (start with this one)
            2. JPEG
   2. Output
      1. x number of matrices
      2. 1s and 0s or just light points?
      3. make sure that corona is taken out, but not light that’s too big.
      4. The points in the matrix might somehow connect to a variable with information of intensity, size, velocity, and direction
      5. edges
2. Comparing matrices
   1. Input
      1. Matrices
   2. Output
      1. Velocity
         1. Each light point in image 1 would have a radius for potential travel points, and in image 2 that radius would be searched as well
      2. Intensity
         1. Use Matlab application to find brightness of each point within chosen radius
      3. Direction
         1. Create a one to one mapping of most bright points (ie the stars; find the direction and distance they moved; from there eliminate)
      4. Size
         1. Compare amount of pixels/area of points
      5. If one light point meets the comet criteria for 5-10? images in a row (with some exceptions), then add these to a master list of what we believe are comets.
3. visualization
   1. Input
      1. Master list of comets and their locations (or location history)
   2. Output
      1. A movie that cycles through all x pictures with each comet highlighted.
      2. We could also just go through the images where the comet appears and make a movie for each comet.
      3. Or both

Goals following weekend break:

Add comments

Complete trajectory implementation

Complete time implementation

Start expanding main “runner” to loop through more images (e.g. 1, 2, 3| 2, 3, 4| 3, 4, 5)

Start thinking about visualization