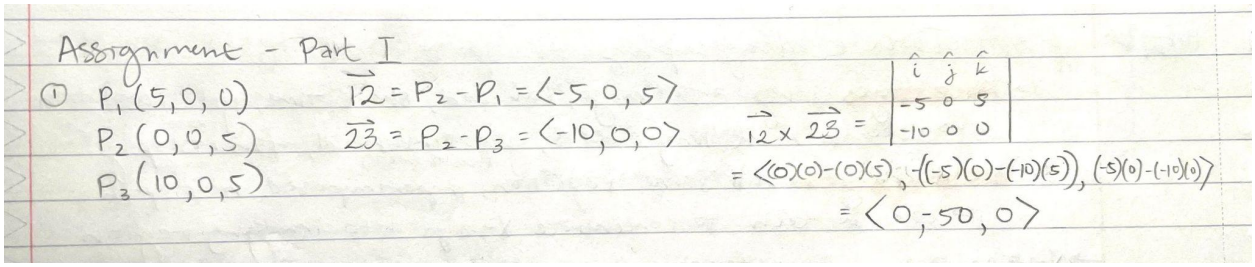
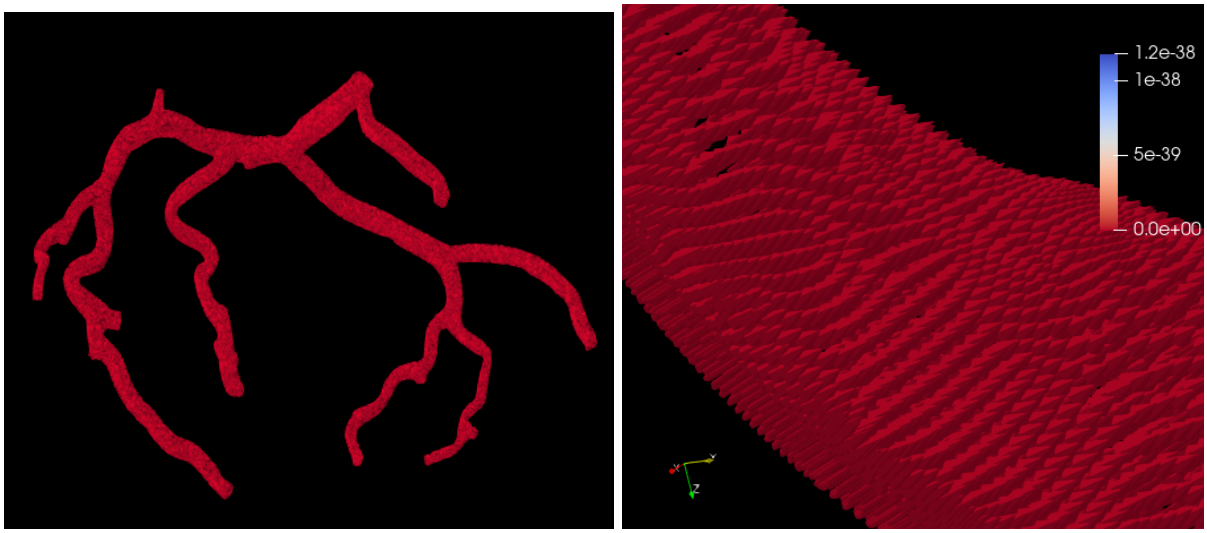
Assignment 2 Part I - Alisa Zhang (worked with Keegan Blain and Laila Alamri)

1. Part I:



See MATLAB file for function.

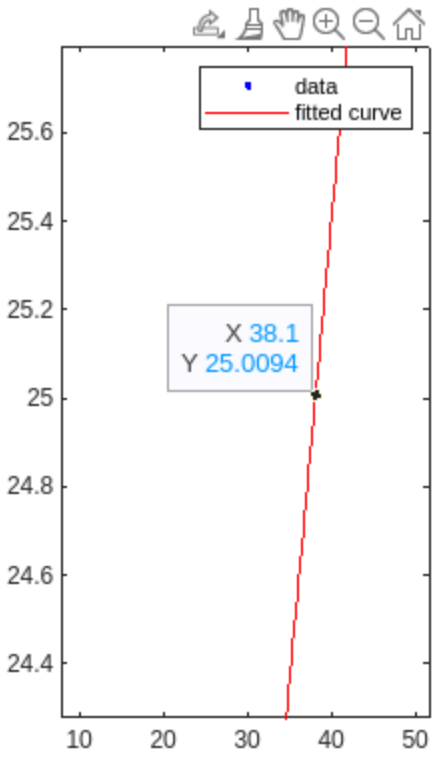
Part II: See MATLAB file for work, paraview is below (zoomed in to show glyphs).



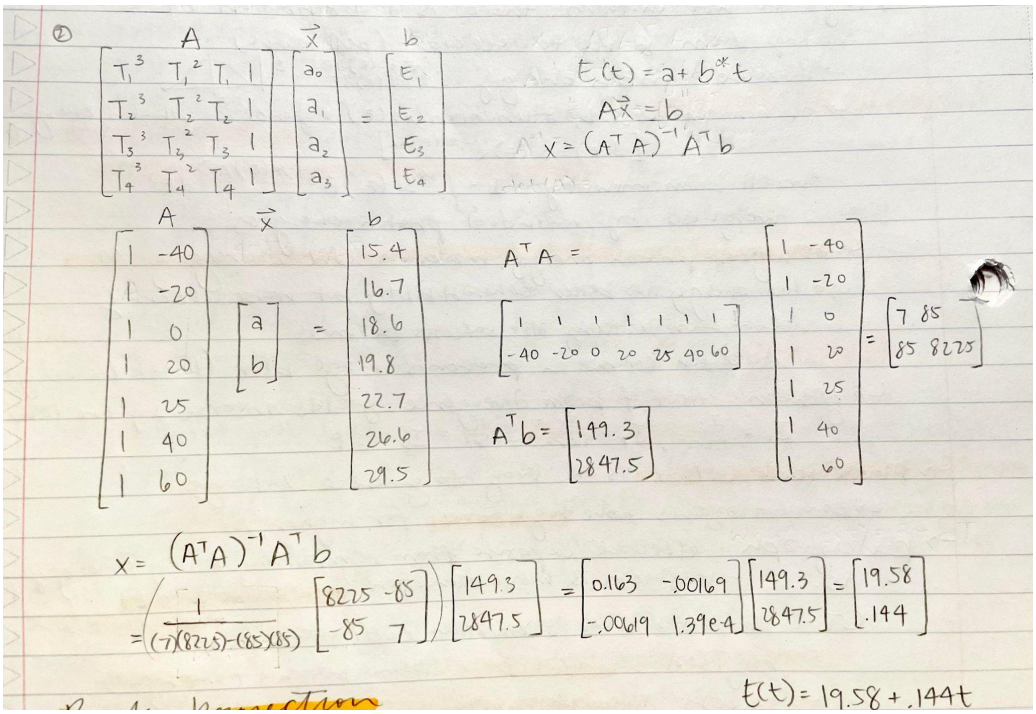
2. **Part I:** Using the graph below on MATLAB, in order to obtain 25keV energy absorption, you need a temperature of T=38.1C.

```
fitresult =

     Linear model Poly3:
     fitresult(x) = p1*x^3 + p2*x^2 + p3*x + p4
     Coefficients (with 95% confidence bounds):
       p1 =  -6.194e-06  (-6.453e-05, 5.214e-05)
       p2 =    0.001369  (-0.001104, 0.003842)
       p3 =      0.1325  (0.02353, 0.2415)
       p4 =       18.32  (15.68, 20.96)
```

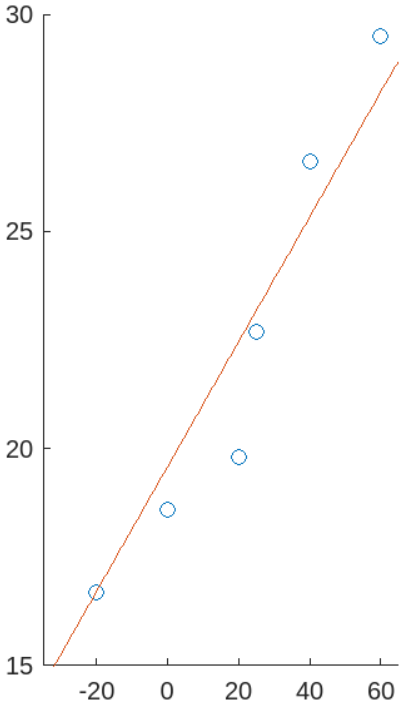


Part II:



Using the above function, in order to obtain 25keV energy absorption, you need a temperature of T=37.64C.

Part III:




```
x =

   19.5820
    0.1438
```

Using the backslash operator in MATLAB results in almost the same answer, with some discrepancies probably due to rounding between steps in my work on paper, so the interpolated T=37.68C.