Least squares for conic sections.

Given points {:

Thankfully, the one stationary point will be the minimum

Divide by 2 and put in matrix form:

For straightline, A=B=C=0:

If passing through 0, then m=n=0: ->

Then solve equation for D

For Circle, A=C, B=0:

Solve via matrix invert

For Parabola, AC=B2:

Solve via matrix invert