1. edge result:

A close-up of a black and white image

Description automatically generated

1. results:

A diagram of a scatter plot of edge points

Description automatically generated

Inverted the y-axis for match the image coordinates.

plt.gca().invert\_yaxis()

1. results:

A graph of a scatter plot

Description automatically generated

Least square fitting code part:

plt.plot(x, m\*x + c, color='blue')

1. The angle is-: -44.38702510610573 degrees

Code:

A = np.vstack([x, np.ones(len(x))]).T

m, c = np.linalg.lstsq(A, y, rcond=None)[0]

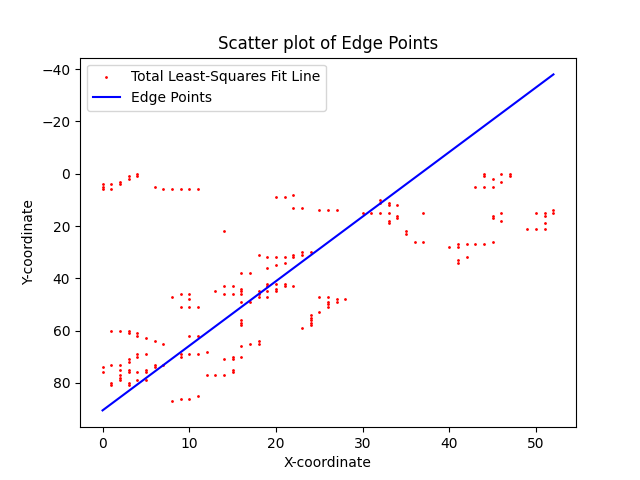
angleinradians = np.arctan(m)

angleindegrees = np.degrees(angleinradians)

1. No,

* Slope-intercept parametrization fails for vertical lines.
* Minimizes vertical distances, we cannot fit vertical/near vertical lines
* Solution is not equivariant with respect to rotation.

1. results:



1. Estimated angle of the crop field: -67.97343481367824 degrees