

## Distance calculation on RAW Dataset

10 points closed to the point P using euclidean distance

|    | area_A | kernel_width | ed       |
|----|--------|--------------|----------|
| 49 | 14.86  | 3.258        | 0.012491 |
| 38 | 14.80  | 3.288        | 0.055880 |
| 48 | 14.79  | 3.291        | 0.066018 |
| 1  | 14.88  | 3.333        | 0.081175 |
| 6  | 14.69  | 3.259        | 0.157524 |
| 24 | 15.01  | 3.245        | 0.163045 |
| 57 | 14.92  | 3.412        | 0.169655 |
| 47 | 14.99  | 3.377        | 0.185248 |
| 55 | 15.03  | 3.212        | 0.188334 |
| 34 | 15.05  | 3.328        | 0.214038 |

10 points closed to the point P using Mahalanobis distance

|    | area_A | kernel_width | md       |
|----|--------|--------------|----------|
| 49 | 14.86  | 3.258        | 0.024394 |
| 0  | 15.26  | 3.312        | 0.142617 |
| 66 | 14.34  | 3.190        | 0.181803 |
| 53 | 14.33  | 3.199        | 0.188329 |
| 6  | 14.69  | 3.259        | 0.229799 |
| 21 | 14.11  | 3.168        | 0.254778 |
| 67 | 14.01  | 3.158        | 0.292948 |
| 33 | 13.94  | 3.150        | 0.318301 |
| 32 | 14.09  | 3.186        | 0.362420 |
| 24 | 15.01  | 3.245        | 0.380052 |

10 points closed to the point P using City block metric is

|    | area_A | kernel_width | cbm      |
|----|--------|--------------|----------|
| 49 | 14.86  | 3.258        | 0.013081 |
| 38 | 14.80  | 3.288        | 0.076919 |
| 48 | 14.79  | 3.291        | 0.089919 |
| 1  | 14.88  | 3.333        | 0.106871 |
| 6  | 14.69  | 3.259        | 0.157919 |
| 24 | 15.01  | 3.245        | 0.176081 |
| 57 | 14.92  | 3.412        | 0.225871 |
| 55 | 15.03  | 3.212        | 0.229081 |
| 47 | 14.99  | 3.377        | 0.260871 |
| 34 | 15.05  | 3.328        | 0.271871 |

10 points closed to the point P using Minkowski metric(for r=3)

|  | area_A | kernel_width | mkski |
|--|--------|--------------|-------|
|--|--------|--------------|-------|

|    |       |       |          |
|----|-------|-------|----------|
| 49 | 14.86 | 3.258 | 0.012477 |
| 38 | 14.80 | 3.288 | 0.051011 |
| 48 | 14.79 | 3.291 | 0.060763 |
| 1  | 14.88 | 3.333 | 0.076403 |
| 6  | 14.69 | 3.259 | 0.157524 |
| 57 | 14.92 | 3.412 | 0.158609 |
| 24 | 15.01 | 3.245 | 0.162508 |
| 47 | 14.99 | 3.377 | 0.165727 |
| 55 | 15.03 | 3.212 | 0.183484 |
| 34 | 15.05 | 3.328 | 0.205158 |

10 points closed to the point P using Chebyshev distance

|    | area_A | kernel_width | cd       |
|----|--------|--------------|----------|
| 49 | 14.86  | 3.258        | 0.012476 |
| 38 | 14.80  | 3.288        | 0.047524 |
| 48 | 14.79  | 3.291        | 0.057524 |
| 1  | 14.88  | 3.333        | 0.074395 |
| 47 | 14.99  | 3.377        | 0.142476 |
| 57 | 14.92  | 3.412        | 0.153395 |
| 6  | 14.69  | 3.259        | 0.157524 |
| 24 | 15.01  | 3.245        | 0.162476 |
| 55 | 15.03  | 3.212        | 0.182476 |
| 34 | 15.05  | 3.328        | 0.202476 |

10 points closed to the point P using Cosine distance

|     | area_A | kernel_width | cosined      |
|-----|--------|--------------|--------------|
| 68  | 14.37  | 3.153        | 1.417635e-09 |
| 49  | 14.86  | 3.258        | 2.303380e-08 |
| 43  | 15.50  | 3.396        | 6.383338e-08 |
| 134 | 15.56  | 3.408        | 9.140845e-08 |
| 4   | 16.14  | 3.562        | 6.799903e-07 |
| 22  | 15.88  | 3.507        | 8.568926e-07 |
| 46  | 15.36  | 3.393        | 9.264121e-07 |
| 20  | 14.16  | 3.129        | 1.027863e-06 |
| 34  | 15.05  | 3.328        | 1.250652e-06 |
| 31  | 15.49  | 3.371        | 1.553713e-06 |

10 points closed to the point P using canberra distance

|    | area_A | kernel_width | canberra |
|----|--------|--------------|----------|
| 49 | 14.86  | 3.258        | 0.000513 |
| 6  | 14.69  | 3.259        | 0.005394 |
| 38 | 14.80  | 3.288        | 0.006093 |
| 48 | 14.79  | 3.291        | 0.006887 |
| 24 | 15.01  | 3.245        | 0.007534 |

|    |       |       |          |
|----|-------|-------|----------|
| 1  | 14.88 | 3.333 | 0.012379 |
| 55 | 15.03 | 3.212 | 0.013310 |
| 10 | 15.26 | 3.242 | 0.016254 |
| 50 | 14.43 | 3.272 | 0.016312 |
| 34 | 15.05 | 3.328 | 0.017308 |

#### Distance calculation on Normalized Dataset

10 points closed to the point P using euclidean distance

|     | area_A | kernel_width | ed       |
|-----|--------|--------------|----------|
| 49  | 0.4032 | 0.4476       | 0.001251 |
| 6   | 0.3872 | 0.4483       | 0.014833 |
| 24  | 0.4174 | 0.4383       | 0.018198 |
| 38  | 0.3975 | 0.4690       | 0.021439 |
| 48  | 0.3966 | 0.4711       | 0.023686 |
| 55  | 0.4193 | 0.4148       | 0.037463 |
| 50  | 0.3626 | 0.4576       | 0.040572 |
| 10  | 0.4410 | 0.4362       | 0.040730 |
| 132 | 0.4523 | 0.4547       | 0.050708 |
| 34  | 0.4212 | 0.4975       | 0.053040 |

10 points closed to the point P using Mahalanobis distance

|    | area_A | kernel_width | md       |
|----|--------|--------------|----------|
| 49 | 0.4032 | 0.4476       | 0.024472 |
| 0  | 0.4410 | 0.4861       | 0.142650 |
| 66 | 0.3541 | 0.3991       | 0.182003 |
| 53 | 0.3532 | 0.4056       | 0.188207 |
| 6  | 0.3872 | 0.4483       | 0.228724 |
| 21 | 0.3324 | 0.3835       | 0.254766 |
| 67 | 0.3229 | 0.3763       | 0.293117 |
| 33 | 0.3163 | 0.3706       | 0.318411 |
| 32 | 0.3305 | 0.3963       | 0.362448 |
| 24 | 0.4174 | 0.4383       | 0.381186 |

10 points closed to the point P using City block metric is

|    | area_A | kernel_width | cbm      |
|----|--------|--------------|----------|
| 49 | 0.4032 | 0.4476       | 0.001614 |
| 6  | 0.3872 | 0.4483       | 0.015086 |
| 24 | 0.4174 | 0.4383       | 0.025114 |
| 38 | 0.3975 | 0.4690       | 0.025486 |

|     |        |        |          |
|-----|--------|--------|----------|
| 48  | 0.3966 | 0.4711 | 0.028486 |
| 50  | 0.3626 | 0.4576 | 0.048986 |
| 55  | 0.4193 | 0.4148 | 0.050514 |
| 10  | 0.4410 | 0.4362 | 0.050814 |
| 1   | 0.4051 | 0.5011 | 0.056124 |
| 132 | 0.4523 | 0.4547 | 0.056924 |

10 points closed to the point P using Minkowski metric(for r=3)

|     | area_A | kernel_width | mkski    |
|-----|--------|--------------|----------|
| 49  | 0.4032 | 0.4476       | 0.001190 |
| 6   | 0.3872 | 0.4483       | 0.014831 |
| 24  | 0.4174 | 0.4383       | 0.016578 |
| 38  | 0.3975 | 0.4690       | 0.021025 |
| 48  | 0.3966 | 0.4711       | 0.023155 |
| 55  | 0.4193 | 0.4148       | 0.034731 |
| 10  | 0.4410 | 0.4362       | 0.039330 |
| 50  | 0.3626 | 0.4576       | 0.039617 |
| 0   | 0.4410 | 0.4861       | 0.048529 |
| 132 | 0.4523 | 0.4547       | 0.050308 |

10 points closed to the point P using Chebyshev distance

|    | area_A | kernel_width | cd       |
|----|--------|--------------|----------|
| 49 | 0.4032 | 0.4476       | 0.001169 |
| 6  | 0.3872 | 0.4483       | 0.014831 |
| 24 | 0.4174 | 0.4383       | 0.015369 |
| 38 | 0.3975 | 0.4690       | 0.020955 |
| 48 | 0.3966 | 0.4711       | 0.023055 |
| 55 | 0.4193 | 0.4148       | 0.033245 |
| 0  | 0.4410 | 0.4861       | 0.038969 |
| 10 | 0.4410 | 0.4362       | 0.038969 |
| 50 | 0.3626 | 0.4576       | 0.039431 |
| 5  | 0.3579 | 0.4861       | 0.044131 |

10 points closed to the point P using Cosine distance

|     | area_A | kernel_width | cosined  |
|-----|--------|--------------|----------|
| 49  | 0.4032 | 0.4476       | 0.000002 |
| 140 | 0.2342 | 0.2594       | 0.000005 |
| 162 | 0.1379 | 0.1547       | 0.000005 |
| 36  | 0.5297 | 0.5944       | 0.000006 |
| 112 | 0.8064 | 0.9066       | 0.000009 |
| 139 | 0.5326 | 0.6001       | 0.000015 |
| 0   | 0.4410 | 0.4861       | 0.000015 |
| 66  | 0.3541 | 0.3991       | 0.000016 |
| 130 | 0.7280 | 0.8019       | 0.000017 |

9 0.5524 0.6237 0.000021

10 points closed to the point P using canberra distance

|     | area_A | kernel_width | canberra_jaccard |
|-----|--------|--------------|------------------|
| 49  | 0.4032 | 0.4476       | 0.001949         |
| 6   | 0.3872 | 0.4483       | 0.019076         |
| 38  | 0.3975 | 0.4690       | 0.028517         |
| 24  | 0.4174 | 0.4383       | 0.029751         |
| 48  | 0.3966 | 0.4711       | 0.031883         |
| 55  | 0.4193 | 0.4148       | 0.059555         |
| 10  | 0.4410 | 0.4362       | 0.059621         |
| 1   | 0.4051 | 0.5011       | 0.059700         |
| 50  | 0.3626 | 0.4576       | 0.062119         |
| 132 | 0.4523 | 0.4547       | 0.066212         |

Distance calculation on Standardized Dataset

10 points closed to the point P using euclidean distance

|     | area_A  | kernel_width | ed       |
|-----|---------|--------------|----------|
| 49  | 0.0043  | -0.0016      | 0.004588 |
| 6   | -0.0543 | 0.0010       | 0.054310 |
| 24  | 0.0560  | -0.0361      | 0.066627 |
| 38  | -0.0164 | 0.0780       | 0.079706 |
| 48  | -0.0198 | 0.0860       | 0.088250 |
| 55  | 0.0629  | -0.1237      | 0.138773 |
| 50  | -0.1438 | 0.0355       | 0.148118 |
| 10  | 0.1421  | -0.0441      | 0.148785 |
| 132 | 0.1834  | 0.0249       | 0.185082 |
| 34  | 0.0698  | 0.1842       | 0.196981 |

10 points closed to the point P using Mahalanobis distance

|    | area_A  | kernel_width | md       |
|----|---------|--------------|----------|
| 49 | 0.0043  | -0.0016      | 0.024379 |
| 0  | 0.1421  | 0.1417       | 0.142617 |
| 66 | -0.1748 | -0.1821      | 0.181851 |
| 53 | -0.1783 | -0.1582      | 0.188333 |
| 6  | -0.0543 | 0.0010       | 0.229739 |
| 21 | -0.2541 | -0.2404      | 0.254832 |
| 67 | -0.2885 | -0.2670      | 0.292893 |
| 33 | -0.3126 | -0.2882      | 0.318243 |
| 32 | -0.2610 | -0.1927      | 0.362481 |

24 0.0560 -0.0361 0.380138

10 points closed to the point P using City block metric is

|     | area_A  | kernel_width | cbm    |
|-----|---------|--------------|--------|
| 49  | 0.0043  | -0.0016      | 0.0059 |
| 6   | -0.0543 | 0.0010       | 0.0553 |
| 24  | 0.0560  | -0.0361      | 0.0921 |
| 38  | -0.0164 | 0.0780       | 0.0944 |
| 48  | -0.0198 | 0.0860       | 0.1058 |
| 50  | -0.1438 | 0.0355       | 0.1793 |
| 10  | 0.1421  | -0.0441      | 0.1862 |
| 55  | 0.0629  | -0.1237      | 0.1866 |
| 132 | 0.1834  | 0.0249       | 0.2083 |
| 1   | 0.0112  | 0.1974       | 0.2086 |

10 points closed to the point P using Minkowski metric(for r=3)

|     | area_A  | kernel_width | mkski    |
|-----|---------|--------------|----------|
| 49  | 0.0043  | -0.0016      | 0.004372 |
| 6   | -0.0543 | 0.0010       | 0.054301 |
| 24  | 0.0560  | -0.0361      | 0.060610 |
| 38  | -0.0164 | 0.0780       | 0.078241 |
| 48  | -0.0198 | 0.0860       | 0.086348 |
| 55  | 0.0629  | -0.1237      | 0.128899 |
| 10  | 0.1421  | -0.0441      | 0.143501 |
| 50  | -0.1438 | 0.0355       | 0.144518 |
| 0   | 0.1421  | 0.1417       | 0.178783 |
| 132 | 0.1834  | 0.0249       | 0.183552 |

10 points closed to the point P using Chebyshev distance

|    | area_A  | kernel_width | cd     |
|----|---------|--------------|--------|
| 49 | 0.0043  | -0.0016      | 0.0043 |
| 6  | -0.0543 | 0.0010       | 0.0543 |
| 24 | 0.0560  | -0.0361      | 0.0560 |
| 38 | -0.0164 | 0.0780       | 0.0780 |
| 48 | -0.0198 | 0.0860       | 0.0860 |
| 55 | 0.0629  | -0.1237      | 0.1237 |
| 0  | 0.1421  | 0.1417       | 0.1421 |
| 10 | 0.1421  | -0.0441      | 0.1421 |
| 50 | -0.1438 | 0.0355       | 0.1438 |
| 5  | -0.1611 | 0.1417       | 0.1611 |

10 points closed to the point P using Cosine distance

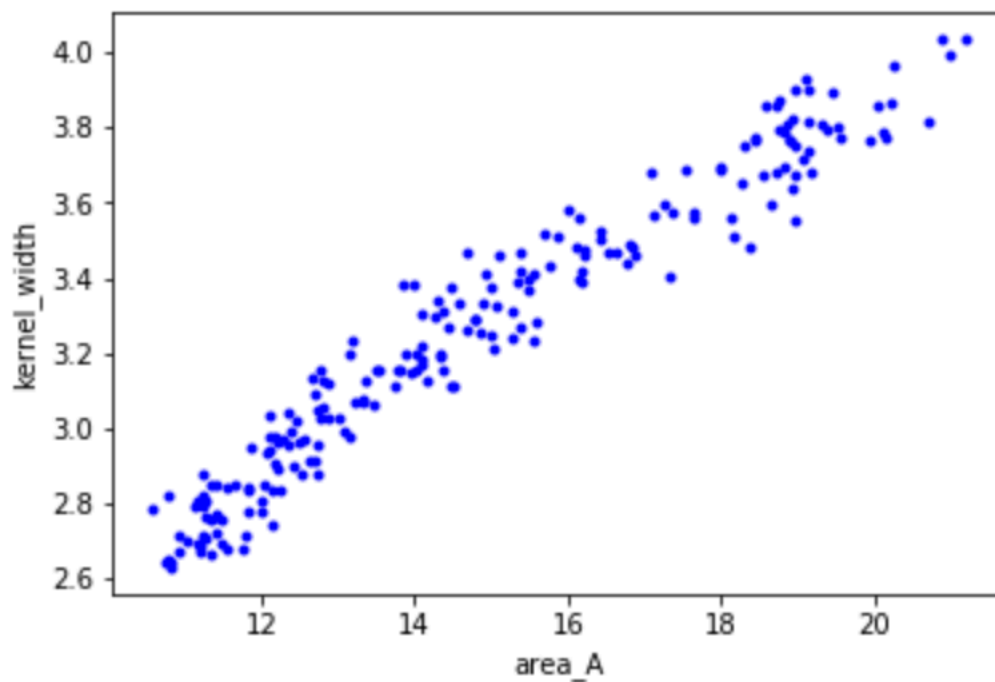
|     | area_A | kernel_width | cosined  |
|-----|--------|--------------|----------|
| 132 | 0.1834 | 0.0249       | 0.009091 |

|     |        |         |          |
|-----|--------|---------|----------|
| 138 | 0.2592 | 0.0727  | 0.037156 |
| 137 | 0.2489 | -0.0733 | 0.040733 |
| 10  | 0.1421 | -0.0441 | 0.044936 |
| 49  | 0.0043 | -0.0016 | 0.062778 |
| 76  | 0.8518 | 0.3832  | 0.088034 |
| 94  | 1.2100 | 0.6008  | 0.104333 |
| 97  | 1.4236 | 0.7786  | 0.122647 |
| 98  | 1.1446 | 0.6725  | 0.137804 |
| 24  | 0.0560 | -0.0361 | 0.159505 |

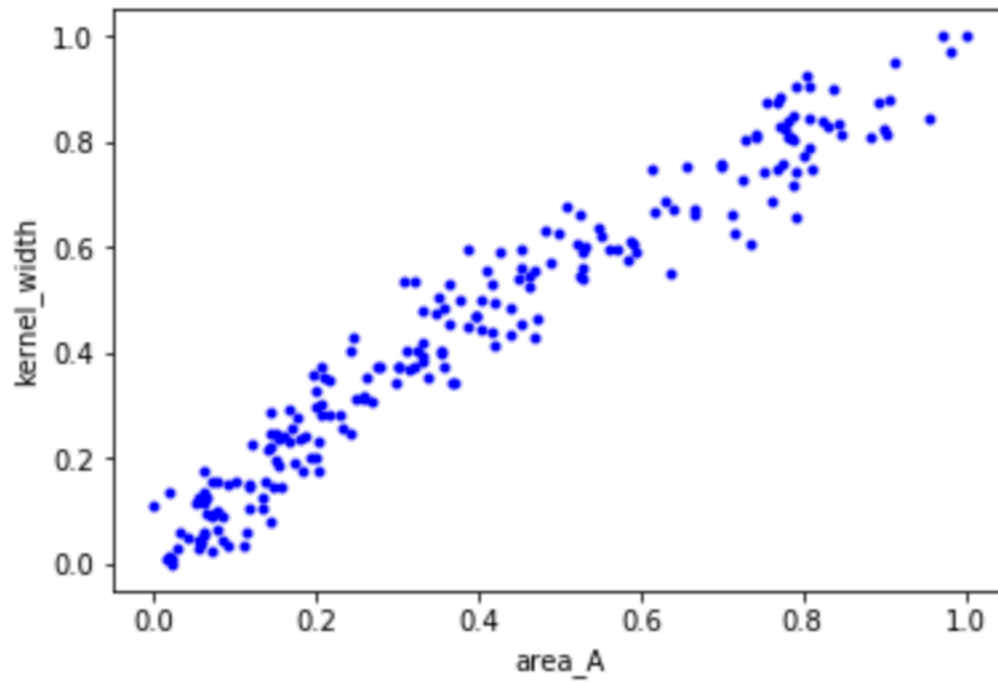
10 points closed to the point P using canberra distance

|    | area_A | kernel_width | canberra |
|----|--------|--------------|----------|
| 49 | 0.0043 | -0.0016      | 1.999779 |
| 1  | 0.0112 | 0.1974       | 1.999915 |
| 57 | 0.0250 | 0.4071       | 1.999962 |
| 47 | 0.0491 | 0.3142       | 1.999981 |
| 24 | 0.0560 | -0.0361      | 1.999983 |
| 55 | 0.0629 | -0.1237      | 1.999985 |
| 34 | 0.0698 | 0.1842       | 1.999986 |
| 44 | 0.0904 | 0.5398       | 1.999989 |
| 0  | 0.1421 | 0.1417       | 1.999993 |
| 10 | 0.1421 | -0.0441      | 1.999993 |

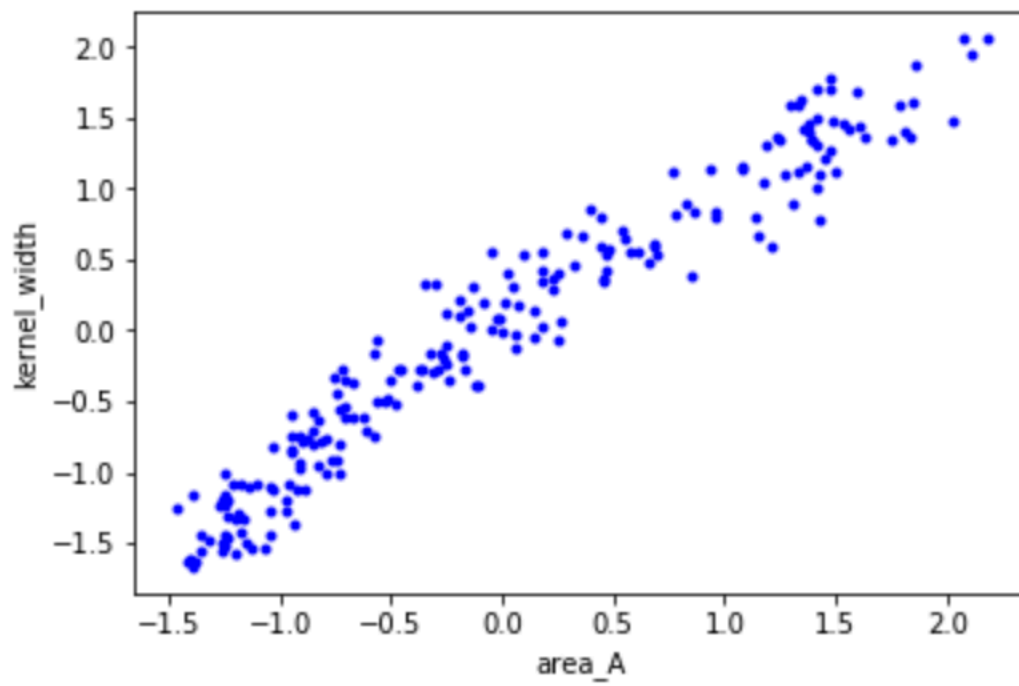
Raw Dataset



Normalized Dataset

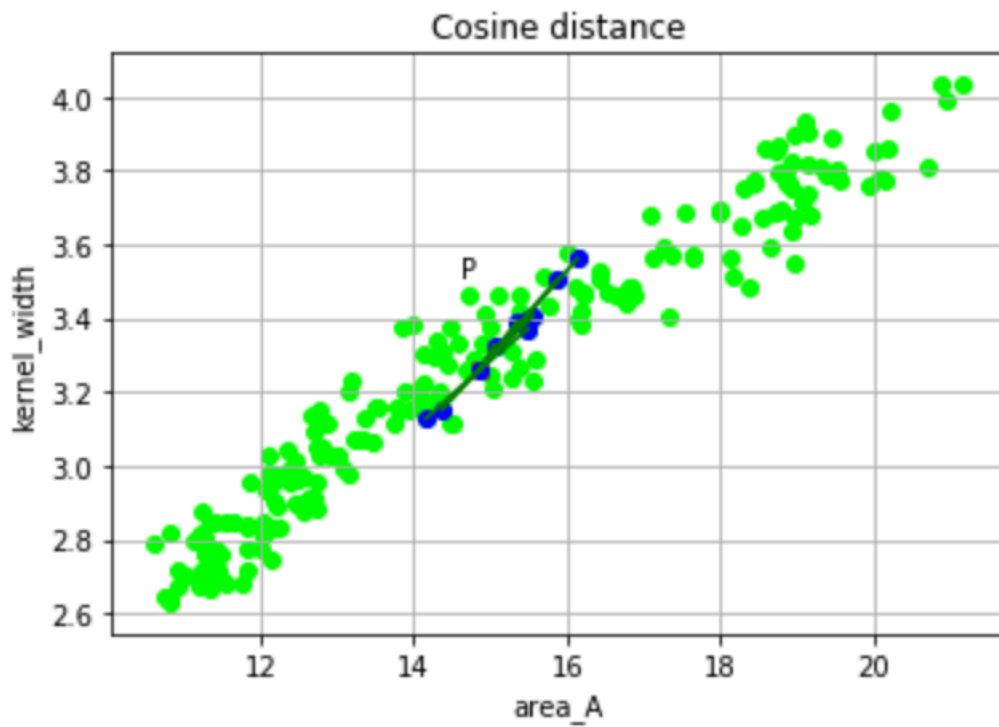
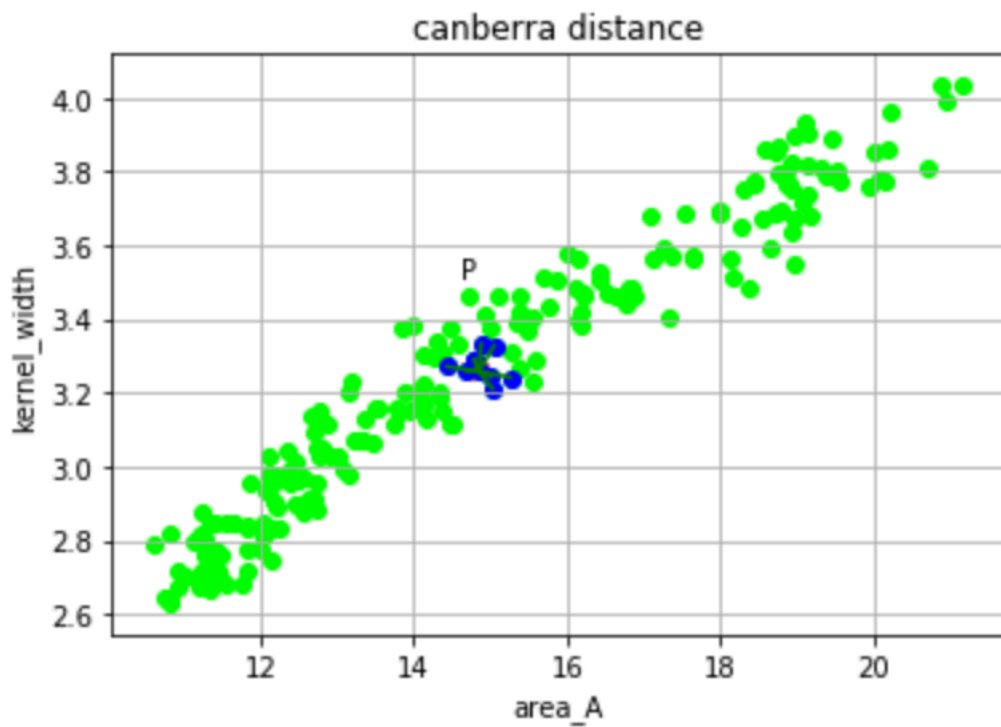


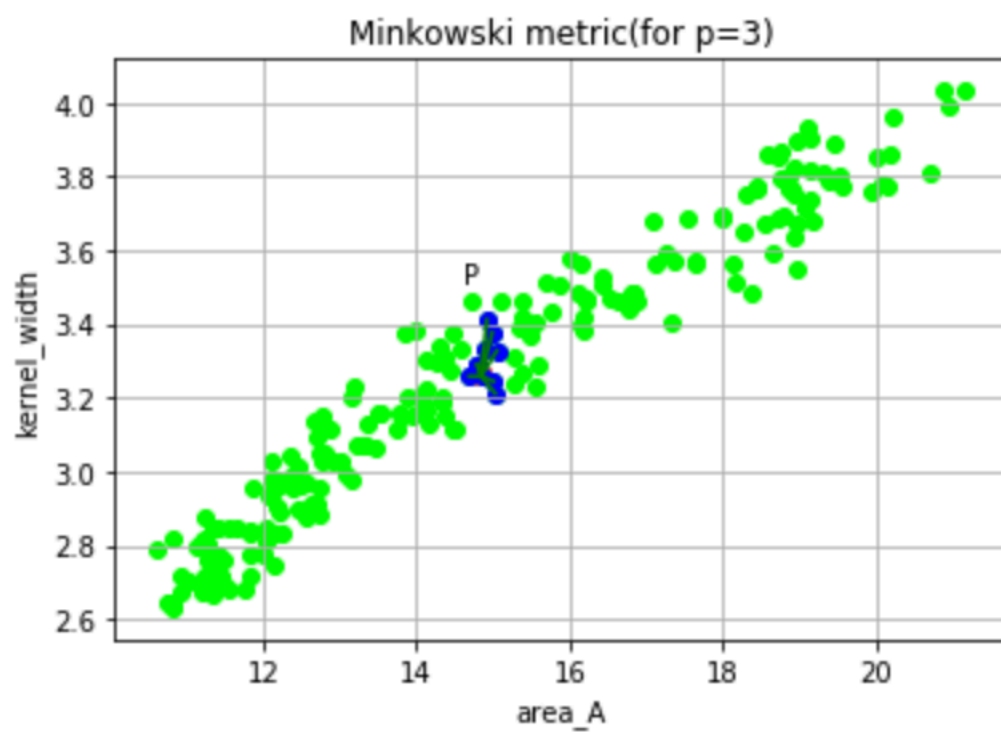
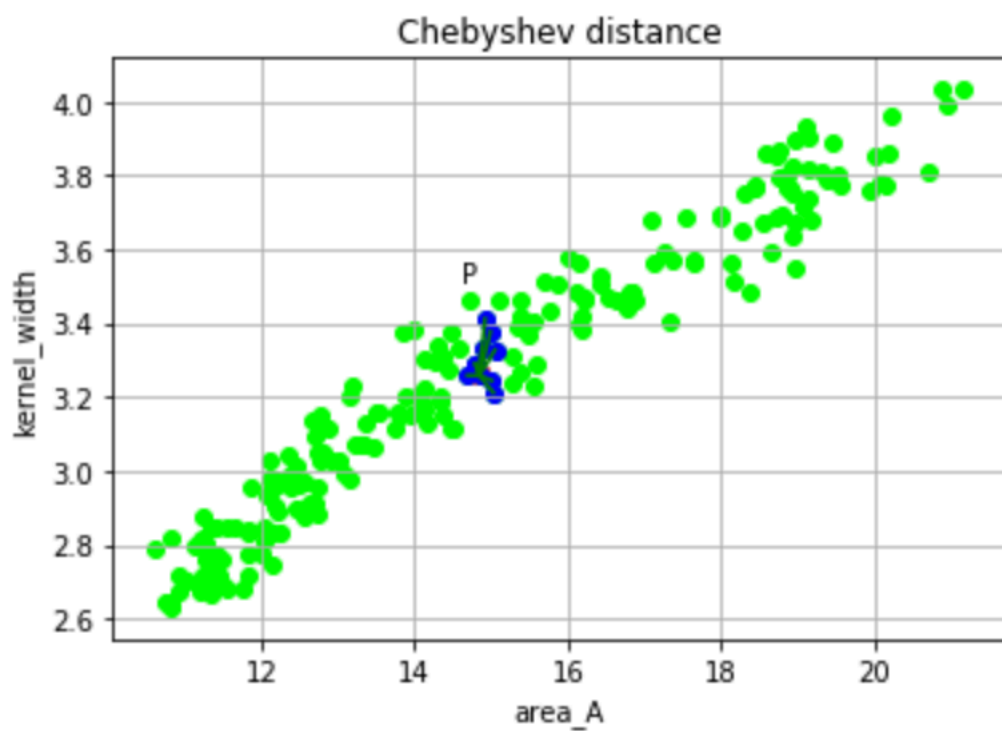
Standardized Dataset

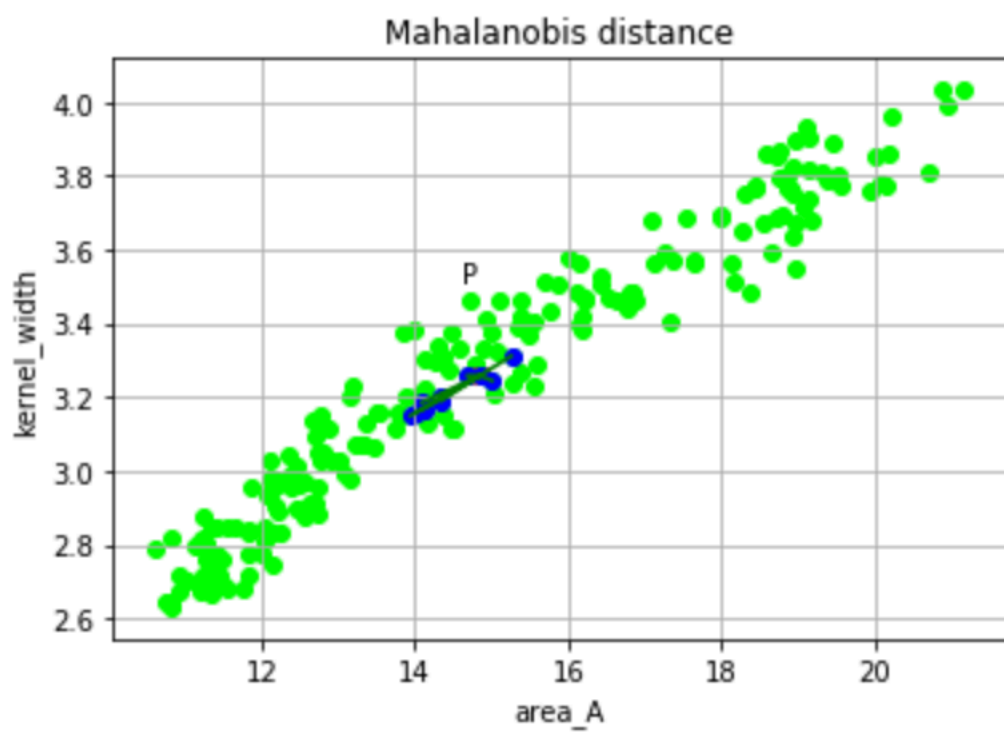
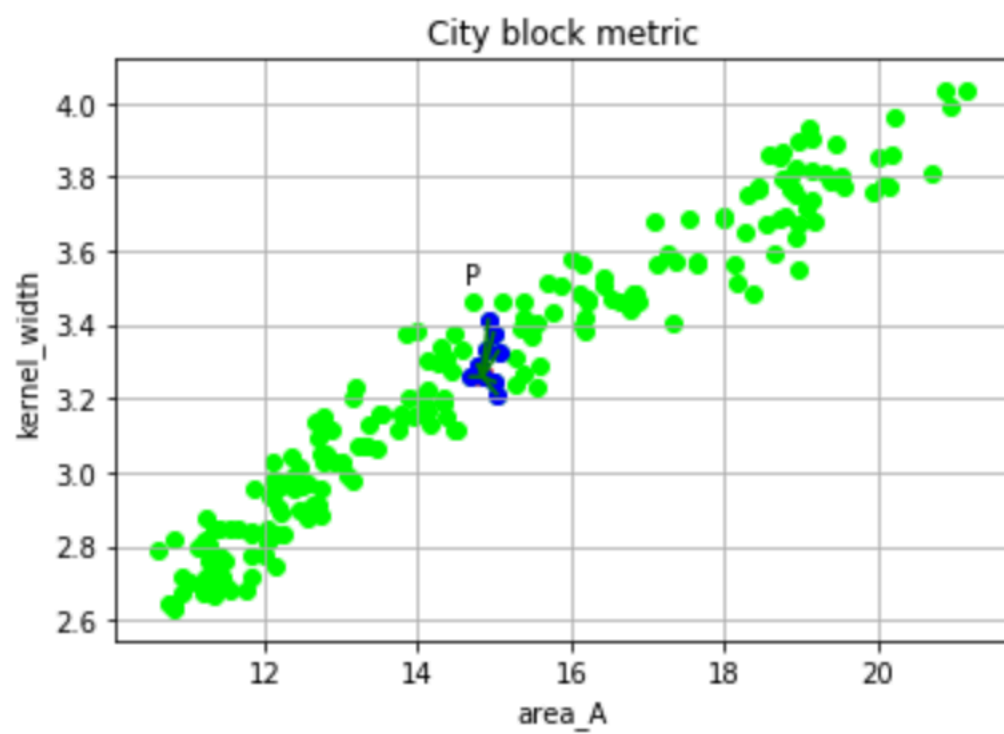


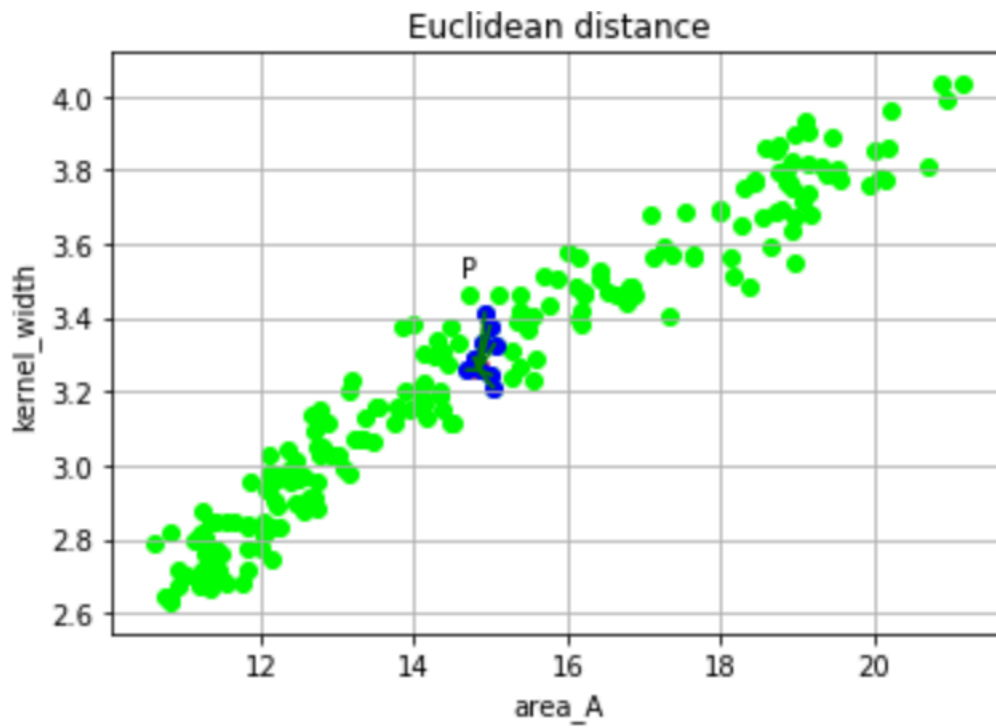


Raw Dataset

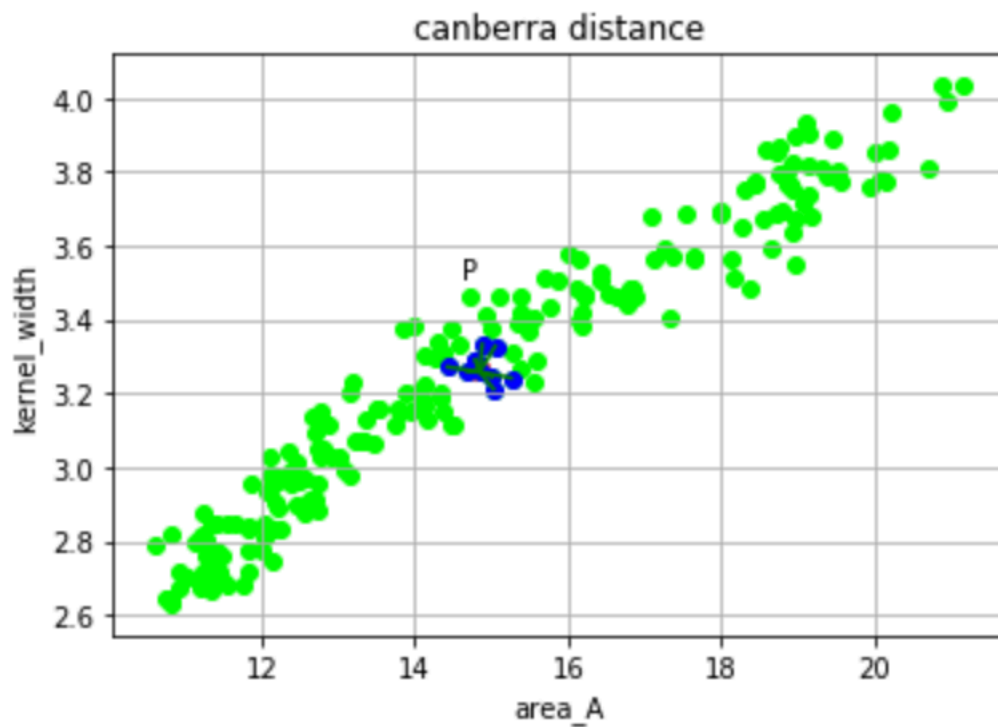


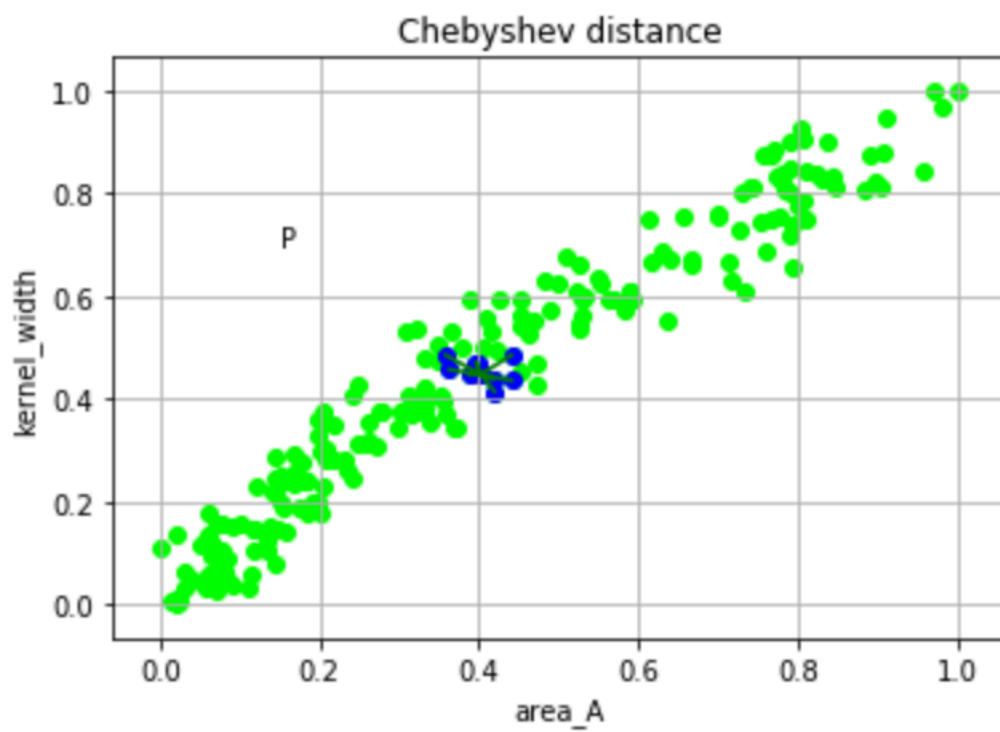
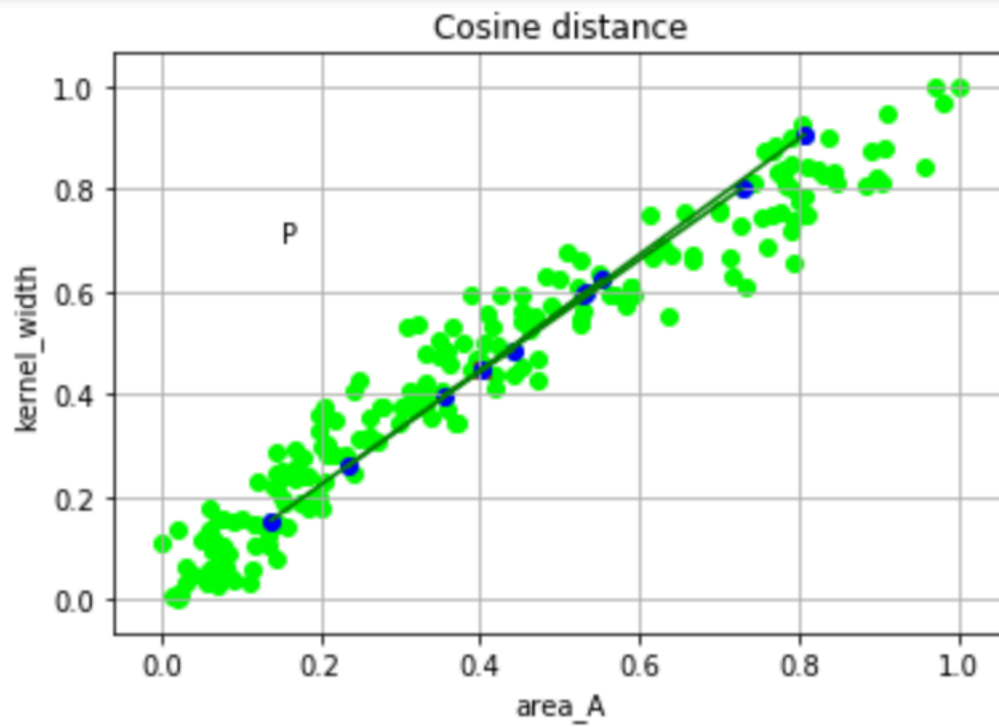


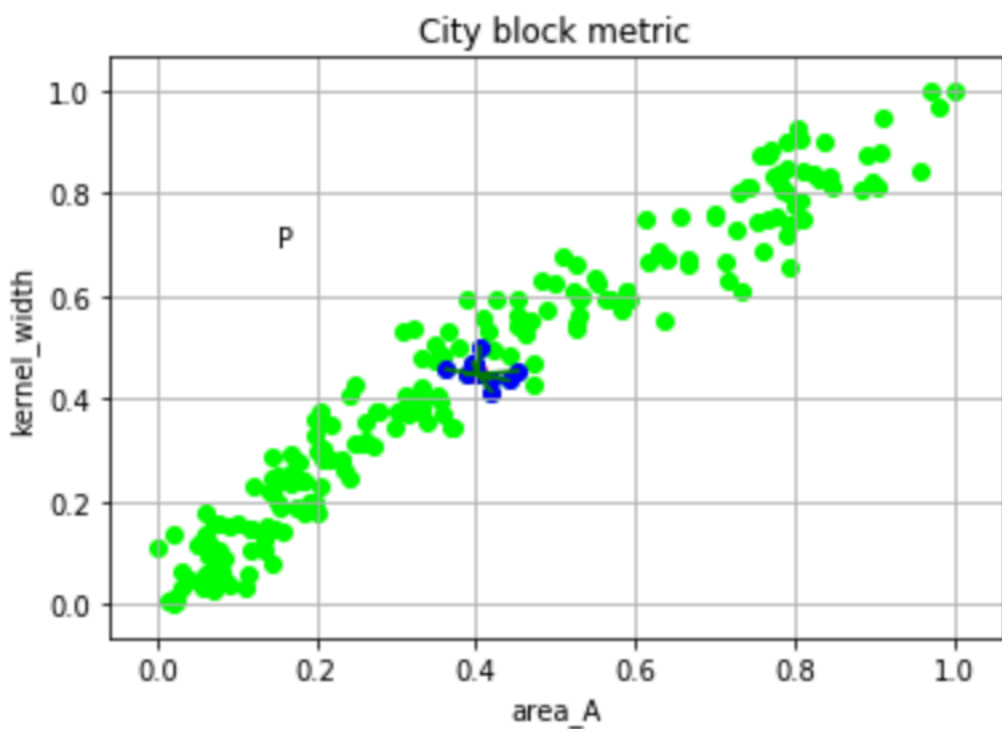
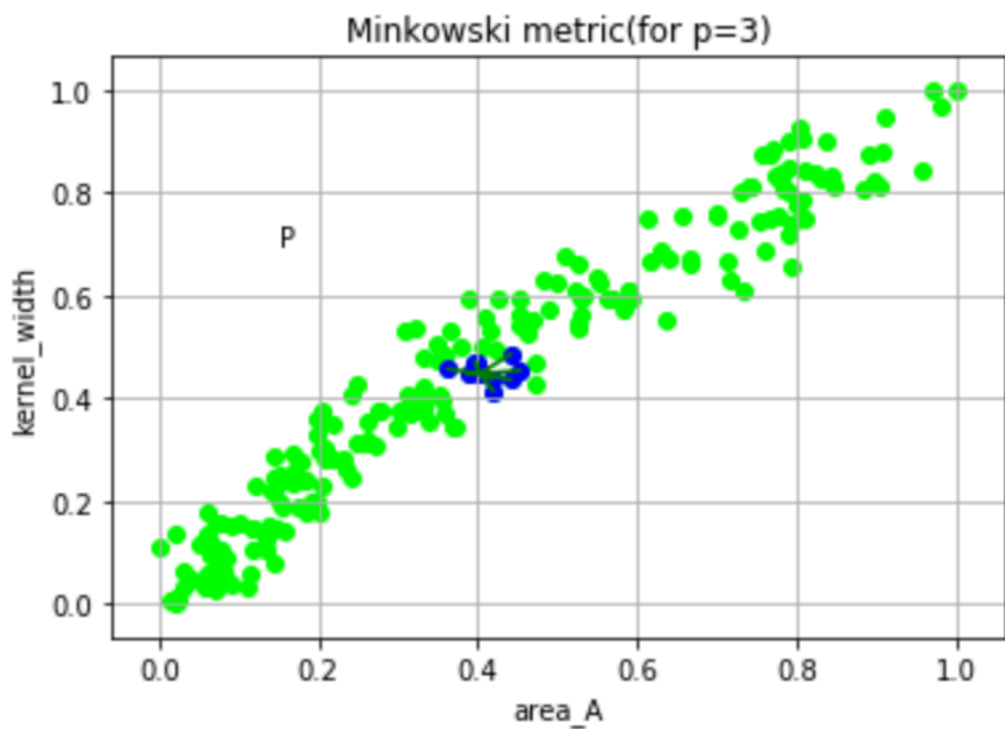


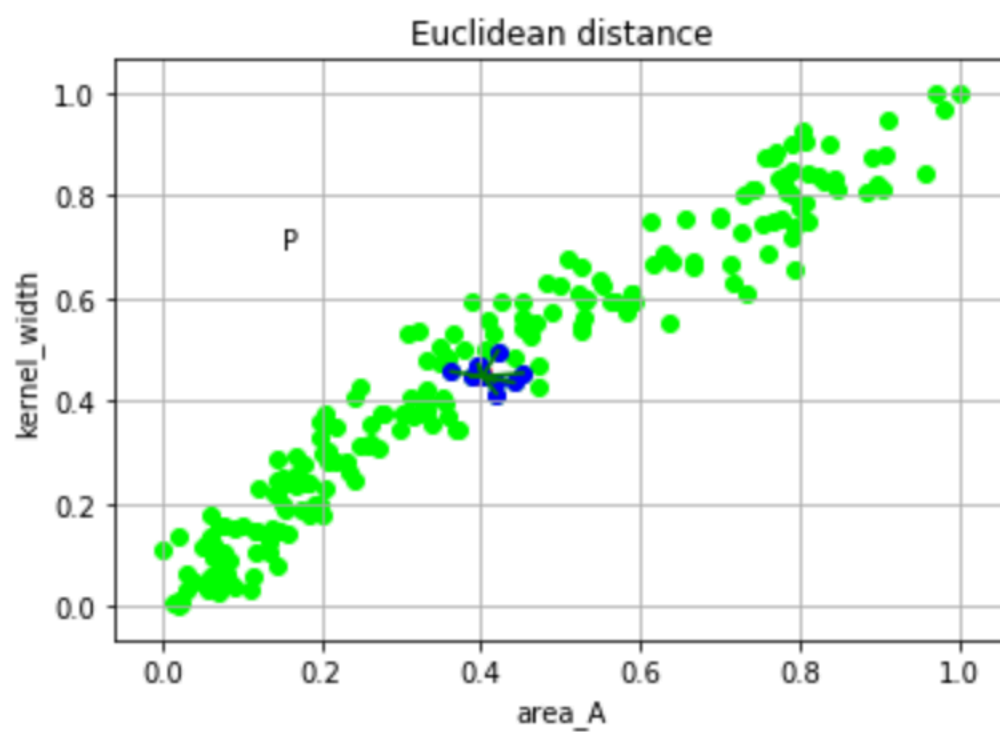
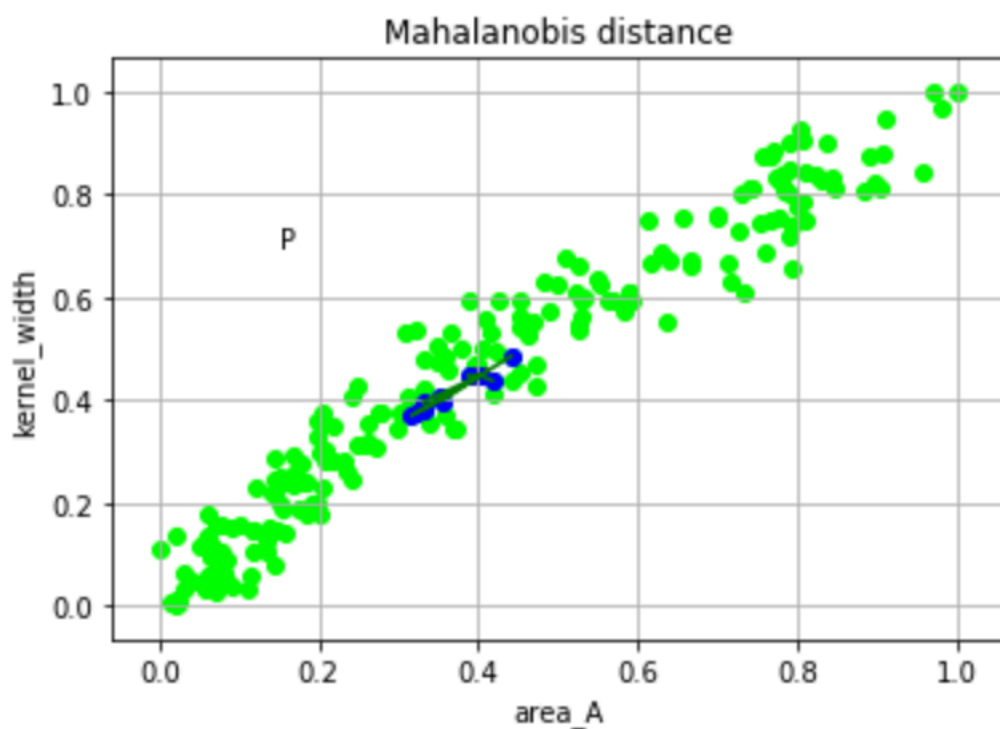


Normalized Dataset









## Standardized Dataset

