This program takes a image and automatically fits it to a graph with data points for analysis, based off of your method of choice.

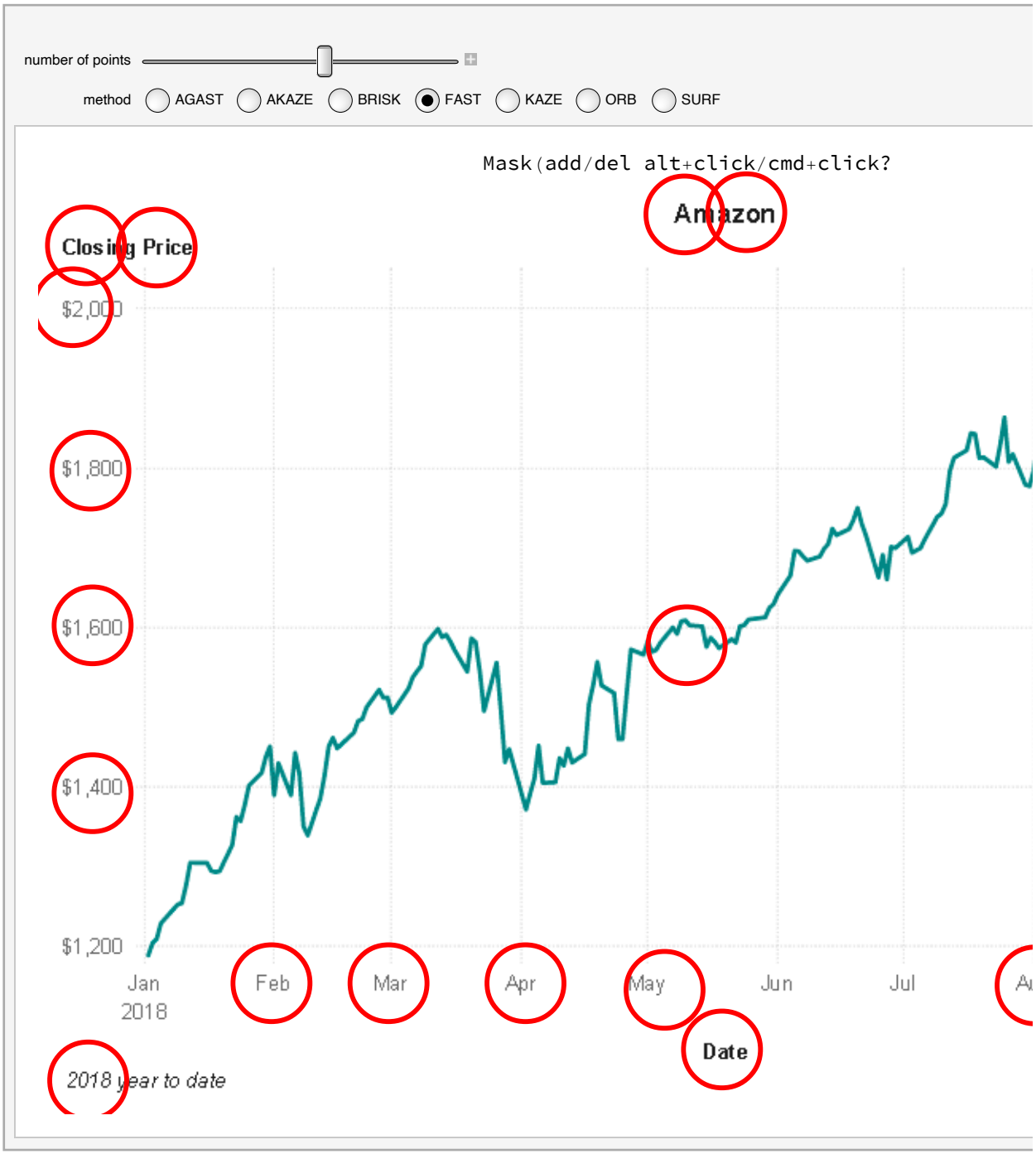
In[7]:=
```
ClearAll;
```

```
image =  ;
```

```
GetPoints[i_] :=
 Manipulate[Grid[{{"Mask(add/del alt+click/cmd+click?", "Selected Points"},
    {Show[i, ImageSize → ImageDimensions[i]],
     mask = Graphics[Disk[#, 30] & /@ p, PlotRange →
        Thread[{{1, 1}, ImageDimensions[i]}], ImageSize → ImageDimensions[i]];
     HighlightImage[i, points = ImageKeypoints[i, MaxFeatures → n,
        Method → method, Masking → mask], ImageSize → ImageDimensions[i]]}}],
  {{p, {ImageDimensions[i] / 2}}, Locator, LocatorAutoCreate → True,
   Appearance → Style["○", Red, 90]},
  {{n, 100, "number of points"}, 10, 300, 10},
  {{method, "FAST"}, {"AGAST", "AKAZE", "BRISK", "FAST", "KAZE", "ORB", "SURF"},
   ControlType → RadioButton}, ControlPlacement → {Top}]

GetList[i_, points_] := Module[{}, ClearAll[list]; list = {};
  Row[{Manipulate[Grid[{{"Selected Points", "Sample List"},
       {Show[i, Graphics[{Point[u]}], ImageSize → ImageDimensions[i]],
        Dynamic[If[(ValueQ[list] == False) || (list == {}),
          "1. move bottom-left and upper-right red points\n2.
            set each coordinate\n3. add/del points if
            necessary(alt+click/cmd+click?\n4. click Calculate
            button", list = Round[#, accuracy] & /@ list;
          Sort[RandomSample[list, UpTo[10]]] // TableForm]]}}],
     Row[{Dynamic[u[[1]]], "->", Control[
        {coordinate1, {{0, 0}}, InputField, ImageSize → 80}], Dynamic[u[[2]]],
       "->", Control[{coordinate2, {{1, 1}}, InputField, ImageSize → 80}],
       Control[{{accuracy, 0.01}, InputField, ImageSize → 50}]}, "  "], Row[{Button[
        "Calculate", list = locator2coordinate[u, {coordinate1, coordinate2}];,
        ImageSize → 120]}, "  "], Row[{Button["Clear points", u = Take[u, 2];
        Put[u, "locator"], ImageSize → 120]}, "  "],
     {{u, Join[{{1, 1}, ImageDimensions[i] - {1, 1}}, Sort[points]]},
      Locator, LocatorAutoCreate → True, Appearance → Style["●", Red, 8]},
     ControlPlacement → {Bottom, Bottom}]}, "  "]]

locator2coordinate[list_, sample_] :=
```

```
 Module[{a, b, c, d, mat, cnst, solve, matx, cnstx}, mat = {{a, 0}, {0, d}};
  cnst = {b, c};
  solve = Solve[mat.list[[1]] + cnst == sample[[1]] &&
     mat.list[[2]] + cnst == sample[[2]], {a, b, c, d}];
  matx = mat /. solve; cnstx = cnst /. solve;
  Partition[Flatten[(matx.# + cnstx) & /@ list], 2] // Sort]

fining = image;
GetPoints[fining]
```

Out[13]=


number of points
method
AGAST
AKAZE
BRISK
FAST
KAZE
ORB
SURF
Mask(add/del alt+click/cmd+click?
Amazon
Closing Price
$2,000
$1,800
$1,600
$1,400
$1,200
Jan
2018
Feb
Mar
Apr
May
Jun
Jul
Date
2018 year to date

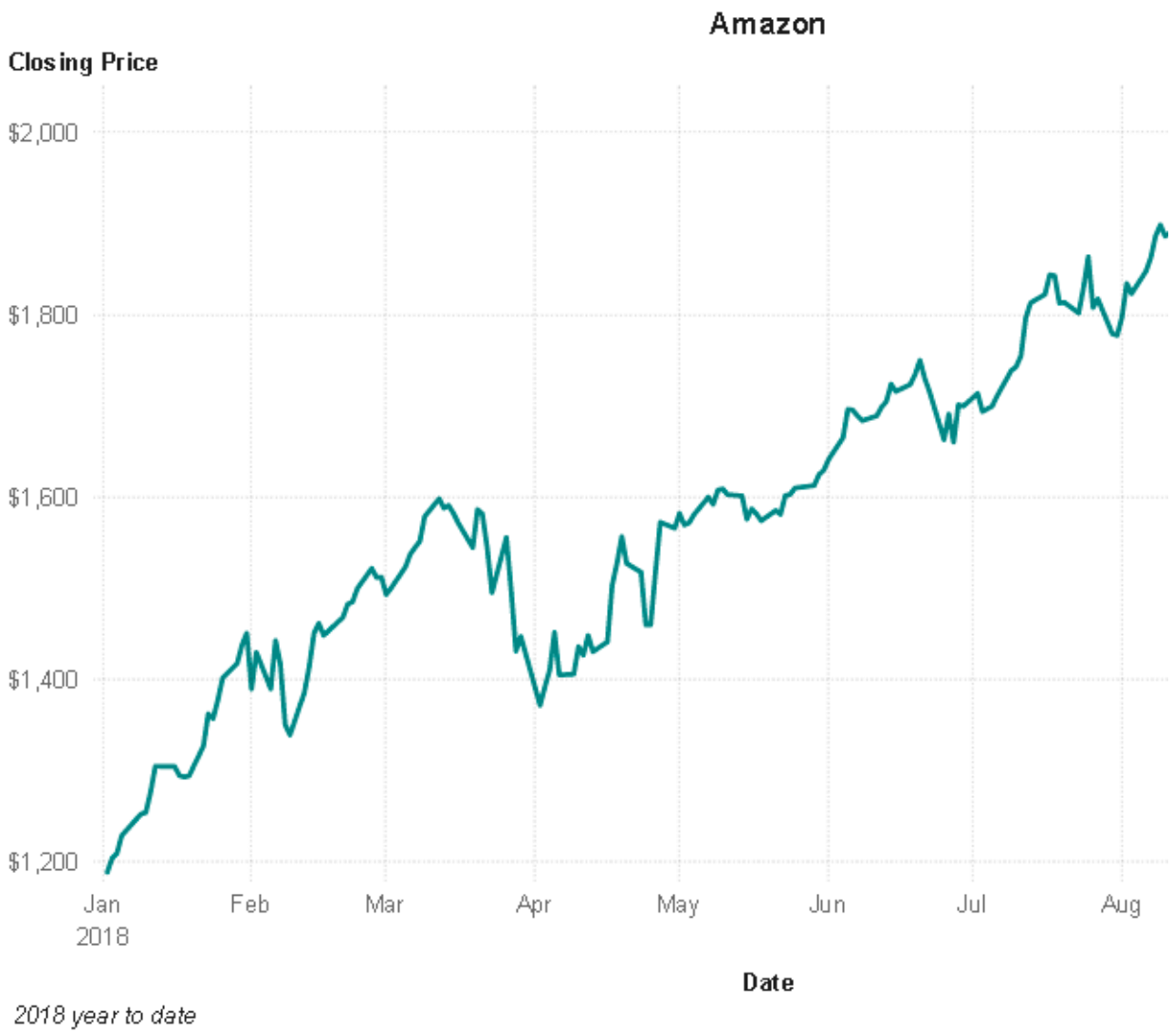
In[16]:= `GetList[fining, points]`

Out[16]=

In[17]:=
```
i = fining;
Grid[{{"original", "calculated"},
  {Show[i, ImageSize → ImageDimensions[i]],
   ListPlot[list, Joined → True, Mesh → All, ImageSize → ImageDimensions[i]]}},
 Spacings → {5, 0}]
```

Out[18]=

original



2018 year to date

In[19]:=
```
listLength = Length[list];
For[i = 1, i <= listLength, i++,
  dataPoint = list[[i]];
  x = dataPoint[[1]];
  dataPoint[[1]] = 10^(x - 2);
  list[[i]] = dataPoint;
 ];

Print[list]
```

```
{{0.0977237, 1191.99}, {0.1, 1200.}, {0.177828, 1256.07}, {0.199526, 1308.14},
 {0.213796, 1302.13}, {0.269153, 1302.13}, {0.288403, 1308.14}, {0.295121, 1296.12},
 {0.30903, 1294.12}, {0.338844, 1294.12}, {0.363078, 1296.12}, {0.416869, 1330.16},
 {0.457088, 1328.16}, {0.489779, 1356.2}, {0.524807, 1360.2}, {0.57544, 1404.26},
 {0.616595, 1402.25}, {0.831764, 1436.3}, {0.851138, 1452.32}, {0.933254, 1392.24},
 {0.954993, 1424.28}, {0.954993, 1430.29}, {1.04713, 1416.27}, {1.04713, 1432.29},
 {1.23027, 1408.26}, {1.41254, 1420.28}, {1.58489, 1352.19}, {1.69824, 1354.19},
 {2.51189, 1456.32}, {2.69153, 1452.32}, {3.01995, 1460.33}, {4.16869, 1486.36},
 {4.67735, 1486.36}, {6.30957, 1514.39}, {6.60693, 1514.39}, {7.07946, 1510.39},
 {7.07946, 1520.4}, {7.4131, 1516.4}, {7.94328, 1494.37}, {7.94328, 1498.37},
 {8.12831, 1506.38}, {12.8825, 1556.45}, {14.1254, 1556.45}, {14.1254, 1580.48},
 {15.4882, 1580.48}, {18.197, 1592.49}, {18.6209, 1600.5}, {19.4984, 1590.49},
 {19.9526, 1598.5}, {20.893, 1588.49}, {21.8776, 1594.49}, {29.5121, 1562.45},
 {34.6737, 1576.47}, {37.1535, 1582.48}, {43.6516, 1520.4}, {51.2861, 1536.42},
 {64.5654, 1454.32}, {67.6083, 1434.29}, {67.6083, 1438.3}, {69.1831, 1450.31},
 {112.202, 1418.27}, {112.202, 1422.28}, {112.202, 1426.28}, {123.027, 1406.26},
 {128.825, 1414.27}, {144.544, 1414.27}, {158.489, 1408.26}, {162.181, 1438.3},
 {173.78, 1426.28}, {177.828, 1442.3}, {181.97, 1428.29}, {194.984, 1434.29},
 {218.776, 1442.3}, {251.189, 1450.31}, {269.153, 1442.3}, {275.423, 1446.31},
 {331.131, 1536.42}, {354.813, 1528.41}, {380.189, 1532.42}, {426.58, 1518.4},
 {467.735, 1520.4}, {478.63, 1462.33}, {501.187, 1462.33}, {501.187, 1474.34},
 {537.032, 1462.33}, {660.693, 1568.46}, {3890.45, 1592.49}, {4365.16, 1606.51},
 {4677.35, 1600.5}, {4897.79, 1606.51}, {5128.61, 1614.52}, {5248.07, 1608.51},
 {5495.41, 1610.51}, {6760.83, 1620.53}, {7244.36, 1616.52}, {10 471.3, 1670.59},
 {11 481.5, 1668.59}, {12 882.5, 1692.62}, {14 791.1, 1686.61}, {15 135.6, 1692.62},
 {18 197., 1696.62}, {19 054.6, 1690.61}, {23 988.3, 1716.65}, {25 704., 1726.66},
 {26 302.7, 1718.65}, {30 199.5, 1730.66}, {37 153.5, 1740.68}, {54 954.1, 1684.61},
 {57 544., 1694.62}, {58 884.4, 1672.59}, {63 095.7, 1688.61}, {69 183.1, 1704.63},
 {72 443.6, 1698.62}, {74 131., 1708.64}, {89 125.1, 1708.64}, {93 325.4, 1718.65},
 {104 713., 1704.63}, {117 490., 1700.63}, {186 209., 1756.7}, {208 930., 1818.77},
 {229 087., 1814.77}, {257 040., 1828.79}, {275 423., 1824.78}, {281 838., 1828.79},
 {301 995., 1838.8}, {338 844., 1816.77}, {354 813., 1822.78}, {363 078., 1812.77},
 {436 516., 1814.77}, {457 088., 1806.76}, {537 032., 1836.8}, {575 440., 1810.76},
 {616 595., 1810.76}, {630 957., 1822.78}, {776 247., 1780.73}, {812 831., 1780.73},
 {812 831., 1786.73}, {1.02329 × 10^6, 1822.78}, {1.07152 × 10^6, 1836.8},
 {1.09648 × 10^6, 1826.78}, {1.51356 × 10^6, 1890.86}, {1.69824 × 10^6, 1890.86},
 {1.86209 × 10^6, 1888.86}, {1.90546 × 10^6, 1898.87}, {2.18776 × 10^6, 1902.88},
```

$$\{2.23872\times10^{6}, 1896.87\}, \{2.45471\times10^{6}, 1898.87\}, \{2.45471\times10^{6}, 1902.88\},$$
$$\{2.81838\times10^{6}, 1884.86\}, \{2.81838\times10^{6}, 1894.87\}, \{3.01995\times10^{6}, 1890.86\},$$
$$\{3.80189\times10^{6}, 1886.86\}, \{3.89045\times10^{6}, 1878.85\}, \{4.36516\times10^{6}, 1888.86\},$$
$$\{4.46684\times10^{6}, 1908.89\}, \{4.7863\times10^{6}, 1902.88\}, \{4.89779\times10^{6}, 1912.89\},$$
$$\{5.49541\times10^{6}, 1908.89\}, \{6.76083\times10^{6}, 1938.92\}, \{7.4131\times10^{6}, 1936.92\},$$
$$\{7.58578\times10^{6}, 2003.\}, \{8.12831\times10^{6}, 2009.01\}, \{1.1749\times10^{7}, 2031.04\},$$
$$\{1.38038\times10^{7}, 1962.95\}, \{1.8197\times10^{7}, 1952.94\}, \{2.04174\times10^{7}, 1988.99\},$$
$$\{2.0893\times10^{7}, 1992.99\}, \{2.18776\times10^{7}, 1994.99\}, \{2.45471\times10^{7}, 1994.99\},$$
$$\{3.23594\times10^{7}, 1932.92\}, \{3.63078\times10^{7}, 1926.91\}, \{3.63078\times10^{7}, 1932.92\},$$
$$\{3.80189\times10^{7}, 1942.93\}, \{4.0738\times10^{7}, 1930.91\}, \{4.67735\times10^{7}, 1928.91\},$$
$$\{5.88844\times10^{7}, 1978.97\}, \{6.76083\times10^{7}, 1980.98\}, \{7.4131\times10^{7}, 2003.\},$$
$$\{7.58578\times10^{7}, 2013.02\}, \{9.12011\times10^{7}, 2003.\}, \{9.54993\times10^{7}, 2009.01\}, \{1.\times10^{8}, 2000.\}\}$$