## American International University Bangladesh (AIUB)



## Assignment

Course Tittle: Computer Vision and Pattern Recognition

Department of Computer Science

Name

Joyti Saha (21-92083-2)

**Submitted To** 

DR. DEBAJYOTI KARMAKER

**Associate Professor** 

```
... @@ -0,0 +1,142 @@
   1 + {
      2 + "nbformat": 4,
      3 + "nbformat_minor": 0,
       4 + "metadata": {
       5 + "colab": {
       6 + "name": "Untitled0.ipynb",
       7 + "provenance": [],
       8 + "collapsed_sections": []
       9 + },
      10 + "kernelspec": {
      11 +
             "name": "python3",
      12 +
                "display_name": "Python 3"
      13 + },
      14 +
              "language_info": {
      15 +
                "name": "python"
      16 + }
      17 + },
      18 + "cells": [
      19 +
      20 +
                "cell_type": "code",
              "execution_count": 1,
      21 +
      22 +
              "metadata": {
      23 +
                "colab": {
      24 + "resources": {
       25 + "http://localhost:8080/nbextensions/google.colab/files.js": {
                "data": "Ly8gQ29weXJpZ2h0IDIwMTcgR29vZ2xlIExMQwovLwovLyBMaWNlbnNlZCB1bmRlciB0aGUgQXBhY2h1IExpY2Vuc2UsIFZlcnNpb24gMi4wICh
       26 +
                      "ok": true,
"headers": [
       27 +
       28 +
                     [
"content-type",
"application/javascript"
       29 +
       30 +
       31 +
       32 +
                     ],
       33 +
       34 +
                      "status": 200,
       35 +
                      "status_text": ""
       36 +
                    }
       37 +
                   },
       38 +
                    "base_uri": "https://localhost:8080/",
       39 +
                    "height": 73
       40 +
                 },
       41 +
                   "id": "bV-hDMWuxMA2",
       42 +
                   "outputId": "e95b5e64-a184-4e19-fcef-db2edd301742"
       43 +
       44 +
                  "outputs": [
       45 +
       46 +
                     "output_type": "display_data",
                  "data": {
       47 +
       48 +
                     "text/html": [
       49 +
                      " <input type=\"file\" id=\"files-d1ce5120-8e0b-4175-81ca-5b724bcc63d5\" name=\"files[]\" multiple disabled\n",
" style=\"border:none\" />\n",
       50 +
       51 +
                             style=\"border:none\" />\n",
       52 +
                            <output id=\"result-d1ce5120-8e0b-4175-81ca-5b724bcc63d5\">\n",
```

Upload widget is only available when the cell has been executed in the\n",

current browser session. Please rerun this cell to enable.\n",

53 +

54 +

55 +

```
56 +
       " <script src=\"/nbextensions/google.colab/files.js\"></script> "
        ],
"text
57 +
58 +
              "text/plain": [
59 +
                "<IPython.core.display.HTML object>"
           ]
60 +
61 +
             },
62 +
             "metadata": {}
63 +
64 +
65 +
          "output_type": sc
"name": "stdout",
             "output_type": "stream",
66 +
67 +
           "text": [
68 +
             "Saving data.csv to data.csv\n"
           ]
70 +
          }
71 +
          1,
72 +
          "source": [
73 +
          "from google.colab import files\n",
         " \n",
" \n",
75 +
76 +
          "uploaded = files.upload()"
77 +
         ]
78 +
        }.
79 +
80 +
         "cell_type": "code",
81 +
        "source": [
82 +
           "import matplotlib.pyplot as plt\n",
          "import random\n",
84 +
          "import math\n",
85 +
           "import pandas as pd\n",
86 + "\n",
```

```
87 +
88 +
         "df = pd.read_csv('data.csv')\n",
89 +
90 +
91 +
92 +
            "Y = df[\"LABEL\"].values.tolist()\n",
          "# print(f\"{X1},{X2}={Y}\") for testing input\n",
93 +
94 +
           "plt.subplot(2, 2, 1)\n",
95 +
           "for i in range(len(Y)):\n",
96 +
          " if Y[i] == 0:\n",
97 +
                 plt.plot(X1[i], X2[i], \"r+\")\n",
98 +
           " else:\n",
99 +
                 plt.plot(X1[i], X2[i], \"b+\")\n",
100 +
           "\n",
101 +
            "plt.subplot(2, 2, 2)\n",
102 +
            "# print(f\"{X1},{X2}={Y}\") for testing input\n",
103 +
           "for i in range(len(Y)):\n",
104 +
           " if Y[i] == 1:\n",
105 +
                 plt.plot(X1[i], X2[i], \"r+\")\n",
106 +
          " else:\n",
107 +
                 plt.plot(X1[i], X2[i], \"b+\")\n",
108 +
          "\n",
109 +
         "plt.subplot(2, 2, 3)\n",
110 +
            "# print(f\"{X1},{X2}={Y}\") for testing input\n",
111 +
            "for i in range(len(Y)):\n",
          " if 40 <= X1[i] <= 80 and 40 <= X2[i] <= 80:\n",
112 +
          " plt.plot(X1[i], X2[i], \"r+\")\n",
113 +
          " else:\n",
114 +
115 +
                 plt.plot(X1[i], X2[i], \"b+\") "
116 +
117 + "metadata": {
```

```
118 + "colab": {
119 + "base_uri": "https://localhost:8080/",
120 + "height": 265
121 + },
122 + "id": "ZcBPCCmDxxBC",
123 + "outputId": "a9a59f05-f022-4a47-db9b-fe884f0d2442"
124 + },
125 + "execution_count": 16,
126 + "outputs": [
127 + {
128 + "output_type": "display_data",
129 + "data": {
130 + "image/opg": "iVBORW6KGgoAAAANSUhEUgAAAXSAAAD4CAYAAAANbUbJAAAABHNKSVQICAgIfAhkiAAAAAlwSF1zAAALEgAACxIB0t1+/AAAADh0RVh0U29m
131 + "text/plain": [
132 + "<figure size 432x288 with 3 Axes>"
133 + ]
134 + },
135 + "metadata": {
136 + "needs_background": "light"
137 + }
138 + ]
139 + ]
140 + }
141 + ]
142 + } ○
```