Compte Rendu TP4

1) Création d’une image couleur (format ppm) et d’une image en niveau de gris à partir d’une image couleur.

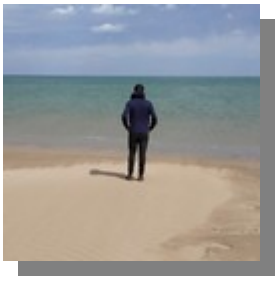
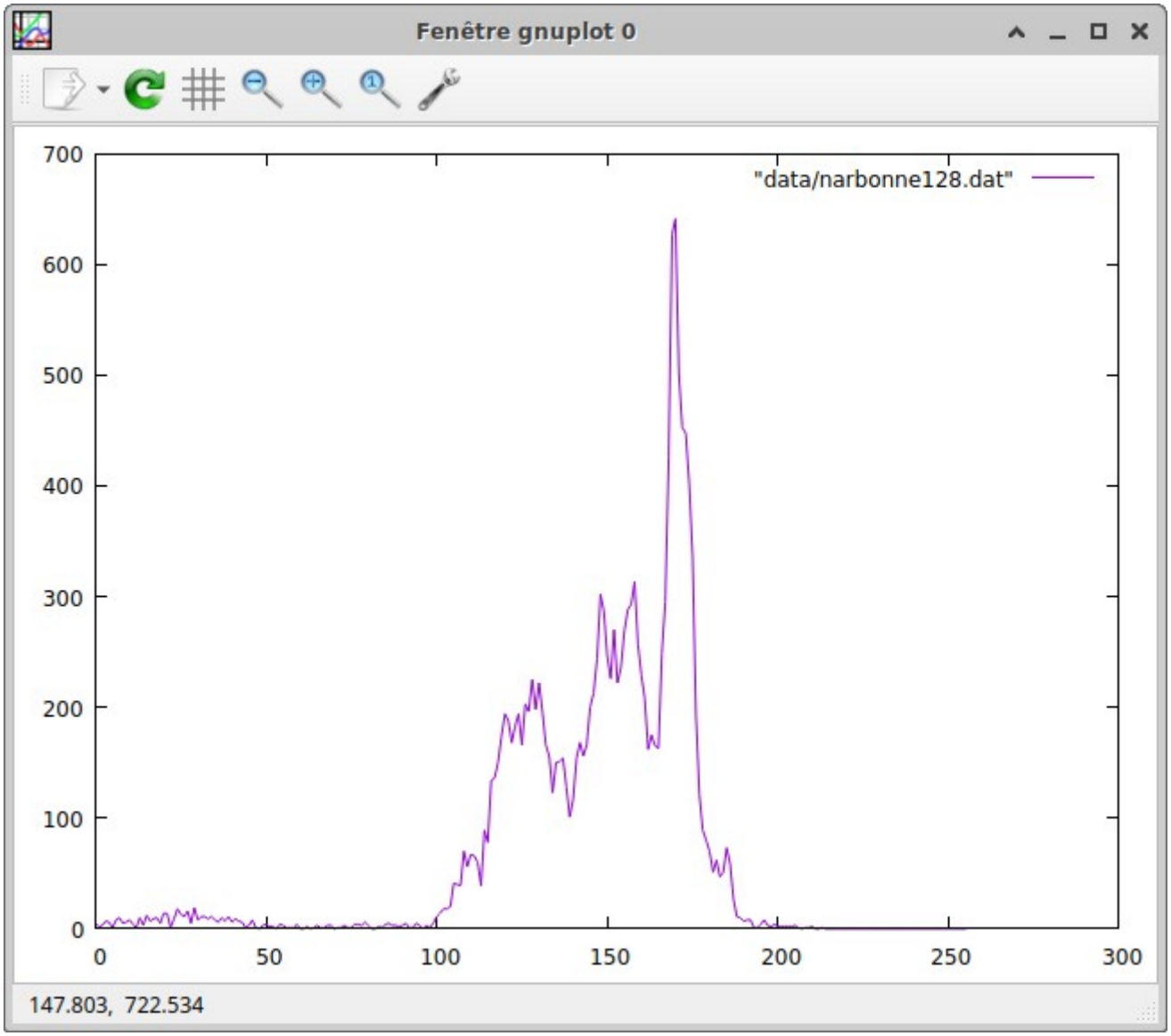


Image de vacance à narbonne



Histogramme de l’image

2) Seuillage de l’histogramme

Seuillage de l’image avec s = 110

3) Floutage de l’image couleur

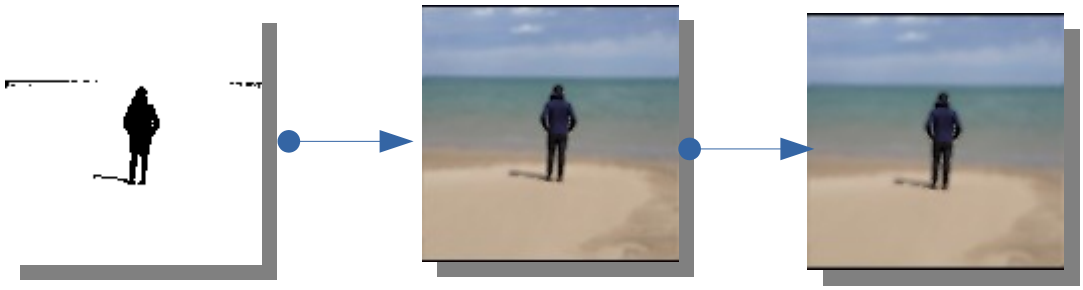
```
int j = 0;

for (int i=nW*3; i < nTaille3-nW*3; i+=3)
 {
    nR = ImgIn[i];
    nG = ImgIn[i+1];
    nB = ImgIn[i+2];

    int pR = (
        ImgIn[i-3+nW*3] +
        ImgIn[i+nW*3] +
        ImgIn[i+3+nW*3] +
        ImgIn[i+3] +
        ImgIn[i] +
        ImgIn[i-3] +
        ImgIn[i-3-nW*3] +
        ImgIn[i-nW*3] +
        ImgIn[i+3-nW*3]
    )/9;

    int pG = (
        ImgIn[i-3+nW*3+1] +
        ImgIn[i+nW*3+1] +
        ImgIn[i+3+nW*3+1] +
        ImgIn[i+3+1] +
        ImgIn[i+1] +
        ImgIn[i-3+1] +
        ImgIn[i-3-nW*3+1] +
        ImgIn[i-nW*3+1] +
        ImgIn[i+3-nW*3+1]
    )/9;


    int pB = (
        ImgIn[i-3+nW*3+2] +
        ImgIn[i+nW*3+2] +
        ImgIn[i+3+nW*3+2]
        ImgIn[i+3+2] +
        ImgIn[i+2] +
        ImgIn[i-3+2] +
        ImgIn[i-3-nW*3+2] +
        ImgIn[i-nW*3+2] +
        ImgIn[i+3-nW*3+2]
    )/9;

    ImgOut[i] = pR;
    ImgOut[i+1] = pG;
    ImgOut[i+2] = pB;

 }
```

floutage

floutage

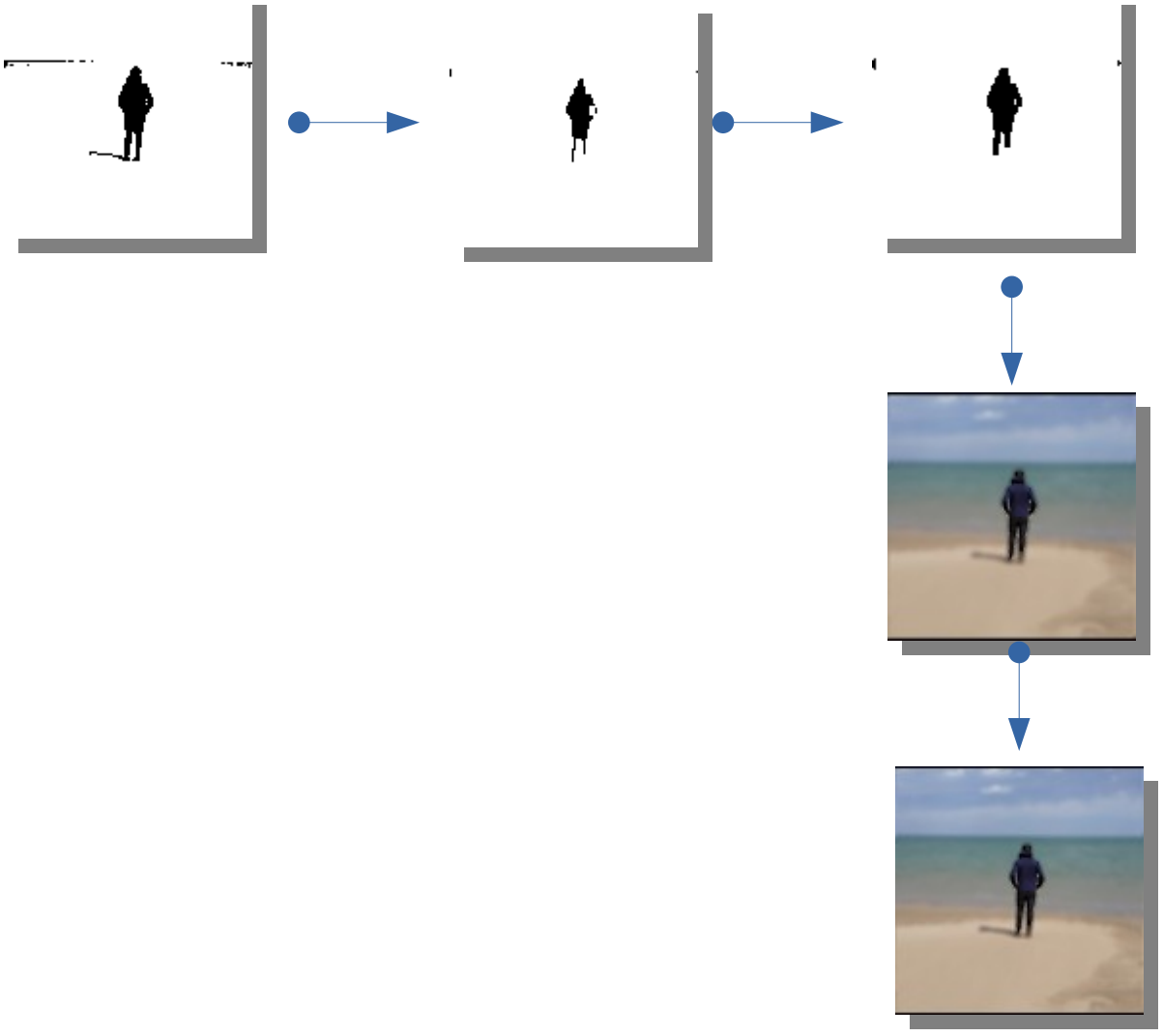
Algo pour flouter

4) Floutage du fond de l’image couleur

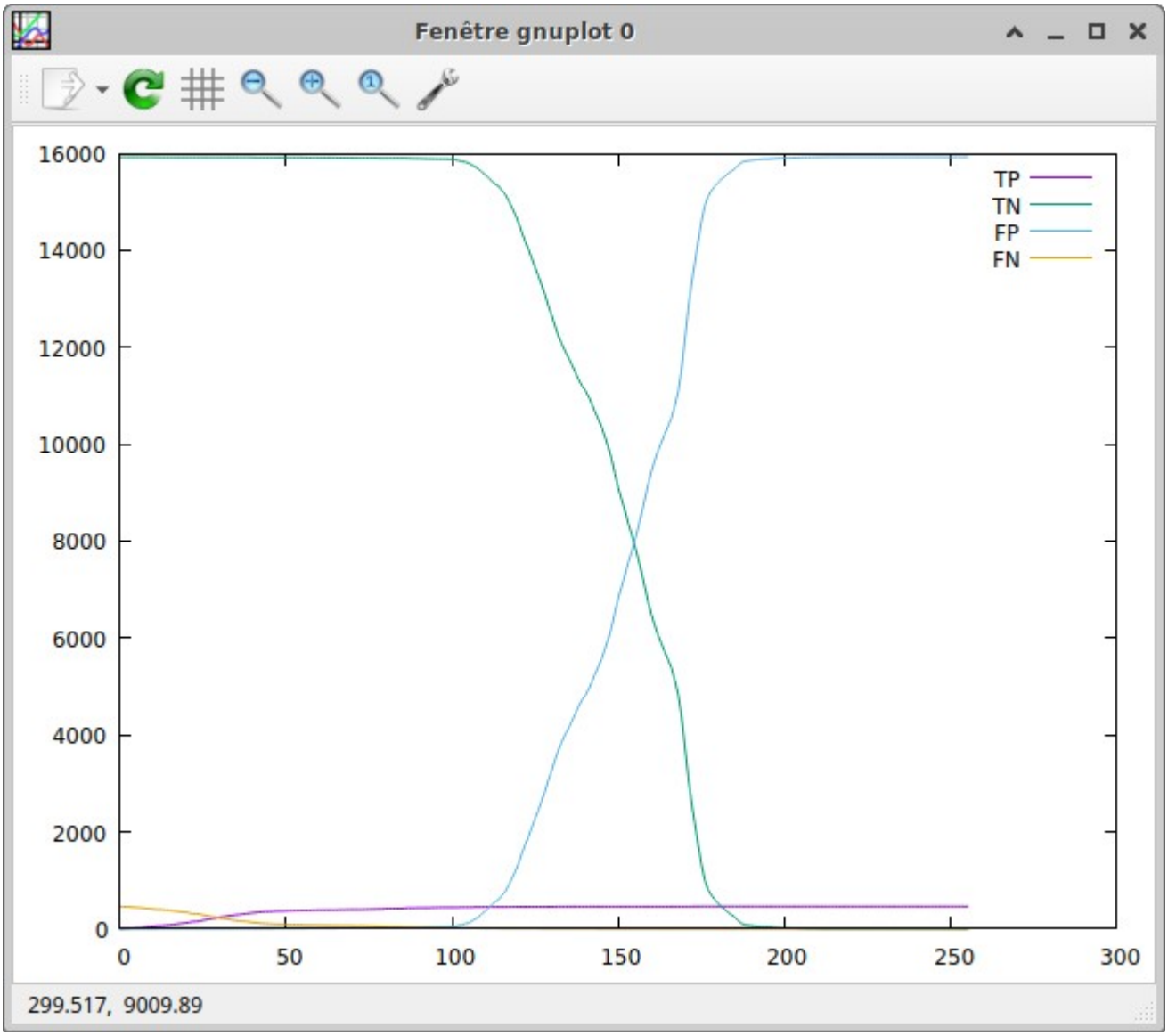


Pour les pixel
Si pBin(i,j) = 255 alors associer p’(i,j) au floutage
sinon associer p(i,j) au pixel original

5) Erosion et dilatation



6) Tracé d’une courbe ROC (receiver operating characteristic) et calcul d’un F1 score



Je n’ai pas pu obtenir la courbe ROC, je ne sais pas pourquoi

```
76, TP = 403, TN = 15904, FP =  18, FN =  59, spe = 0.872294, sen =  0.001131
77, TP = 406, TN = 15903, FP =  19, FN =  56, spe = 0.878788, sen =  0.001193
78, TP = 409, TN = 15902, FP =  20, FN =  53, spe = 0.885281, sen =  0.001256
79, TP = 410, TN = 15900, FP =  22, FN =  52, spe = 0.887446, sen =  0.001382
80, TP = 415, TN = 15899, FP =  23, FN =  47, spe = 0.898268, sen =  0.001445
81, TP = 418, TN = 15899, FP =  23, FN =  44, spe = 0.904762, sen =  0.001445
82, TP = 418, TN = 15899, FP =  23, FN =  44, spe = 0.904762, sen =  0.001445
83, TP = 418, TN = 15899, FP =  23, FN =  44, spe = 0.904762, sen =  0.001445
84, TP = 420, TN = 15899, FP =  23, FN =  42, spe = 0.909091, sen =  0.001445
85, TP = 421, TN = 15899, FP =  23, FN =  41, spe = 0.911255, sen =  0.001445
86, TP = 425, TN = 15899, FP =  23, FN =  37, spe = 0.919913, sen =  0.001445
87, TP = 429, TN = 15898, FP =  24, FN =  33, spe = 0.928571, sen =  0.001507
88, TP = 430, TN = 15896, FP =  26, FN =  32, spe = 0.930736, sen =  0.001633
89, TP = 431, TN = 15894, FP =  28, FN =  31, spe = 0.932900, sen =  0.001759
90, TP = 433, TN = 15894, FP =  28, FN =  29, spe = 0.937229, sen =  0.001759
91, TP = 433, TN = 15891, FP =  31, FN =  29, spe = 0.937229, sen =  0.001947
92, TP = 435, TN = 15888, FP =  34, FN =  27, spe = 0.941558, sen =  0.002135
93, TP = 435, TN = 15887, FP =  35, FN =  27, spe = 0.941558, sen =  0.002198
94, TP = 436, TN = 15887, FP =  35, FN =  26, spe = 0.943723, sen =  0.002198
95, TP = 438, TN = 15884, FP =  38, FN =  24, spe = 0.948052, sen =  0.002387
96, TP = 440, TN = 15883, FP =  39, FN =  22, spe = 0.952381, sen =  0.002449
97, TP = 440, TN = 15883, FP =  39, FN =  22, spe = 0.952381, sen =  0.002449
98, TP = 441, TN = 15881, FP =  41, FN =  21, spe = 0.954545, sen =  0.002575
99, TP = 441, TN = 15880, FP =  42, FN =  21, spe = 0.954545, sen =  0.002638
100, TP = 443, TN = 15877, FP =  45, FN =  19, spe = 0.958874, sen =  0.002826
```