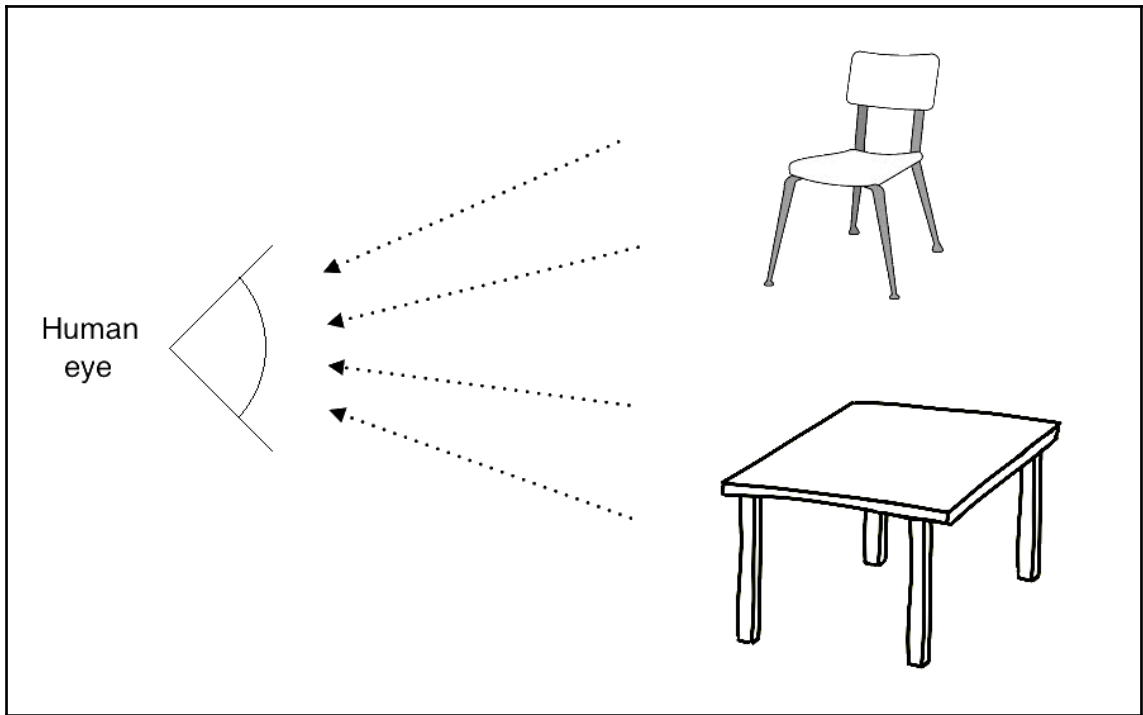


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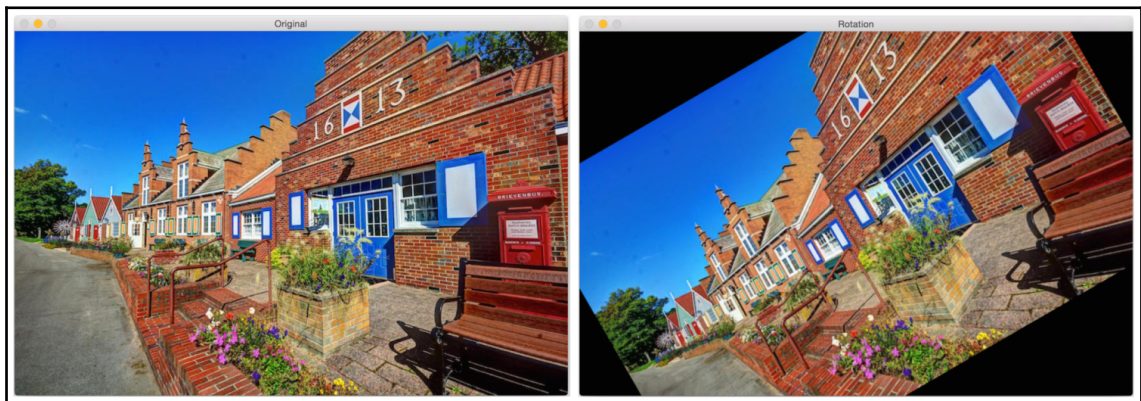
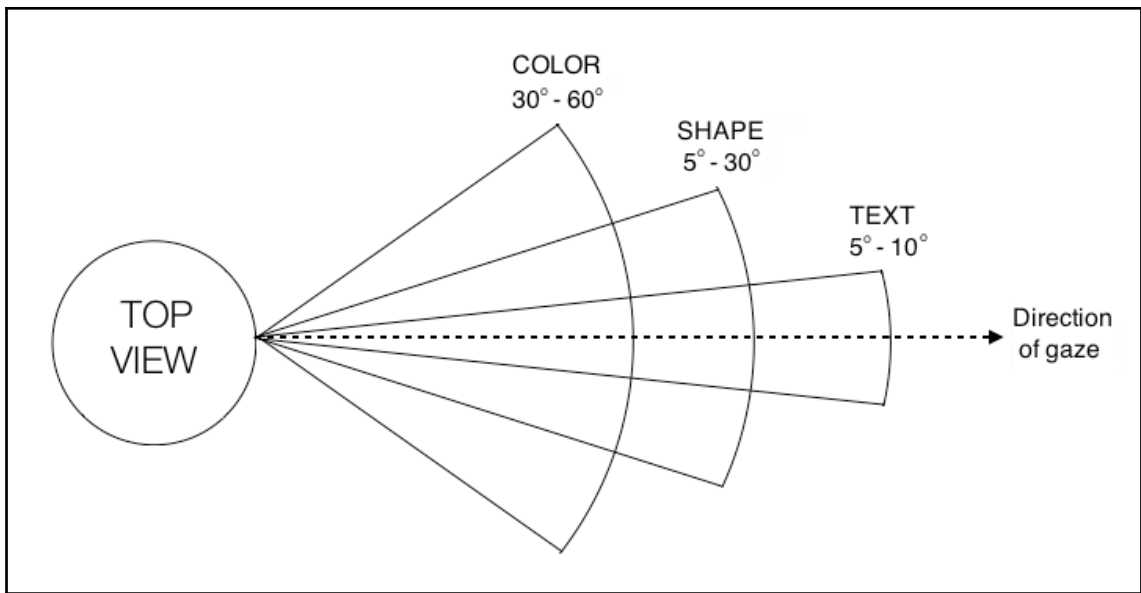
<b>Auto Draft</b>	1
<b>Index</b>	95

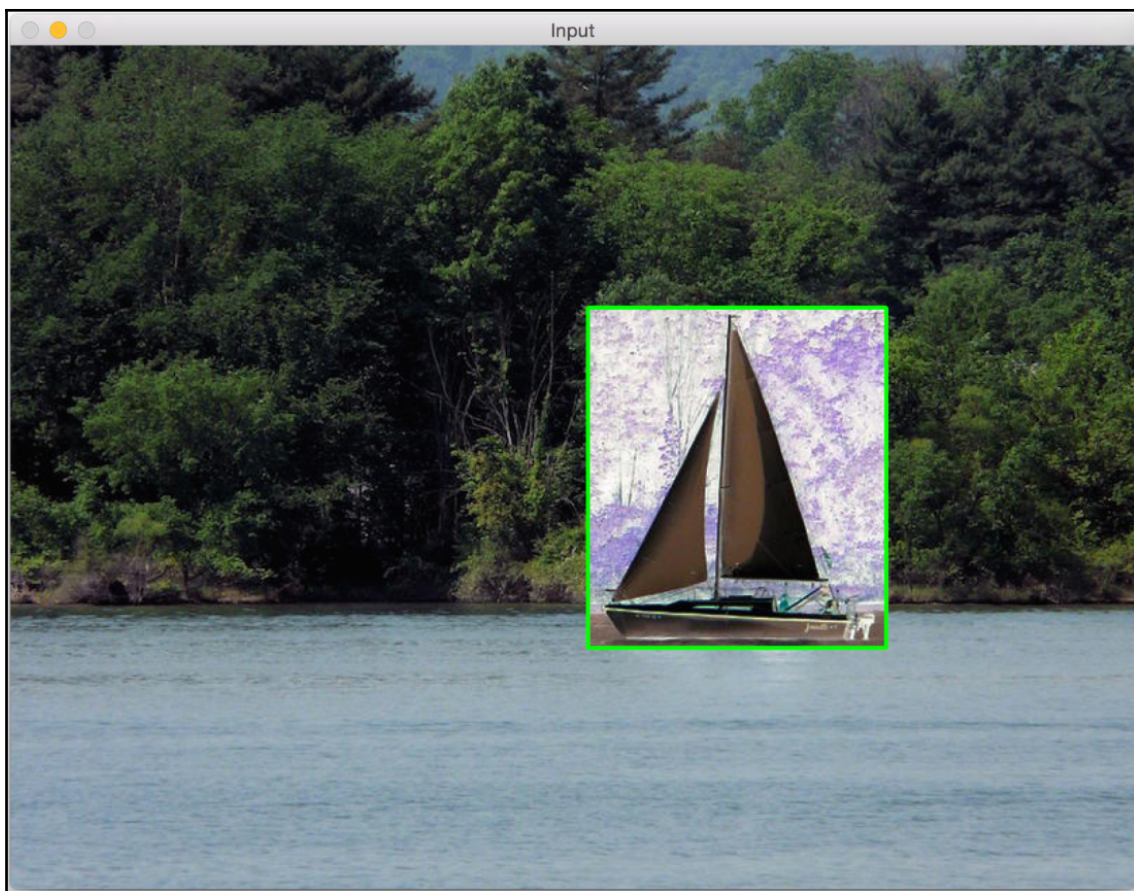
# Auto Draft

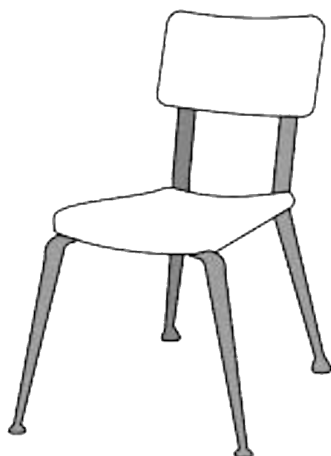
## Chapter 1: Getting Started with OpenCV

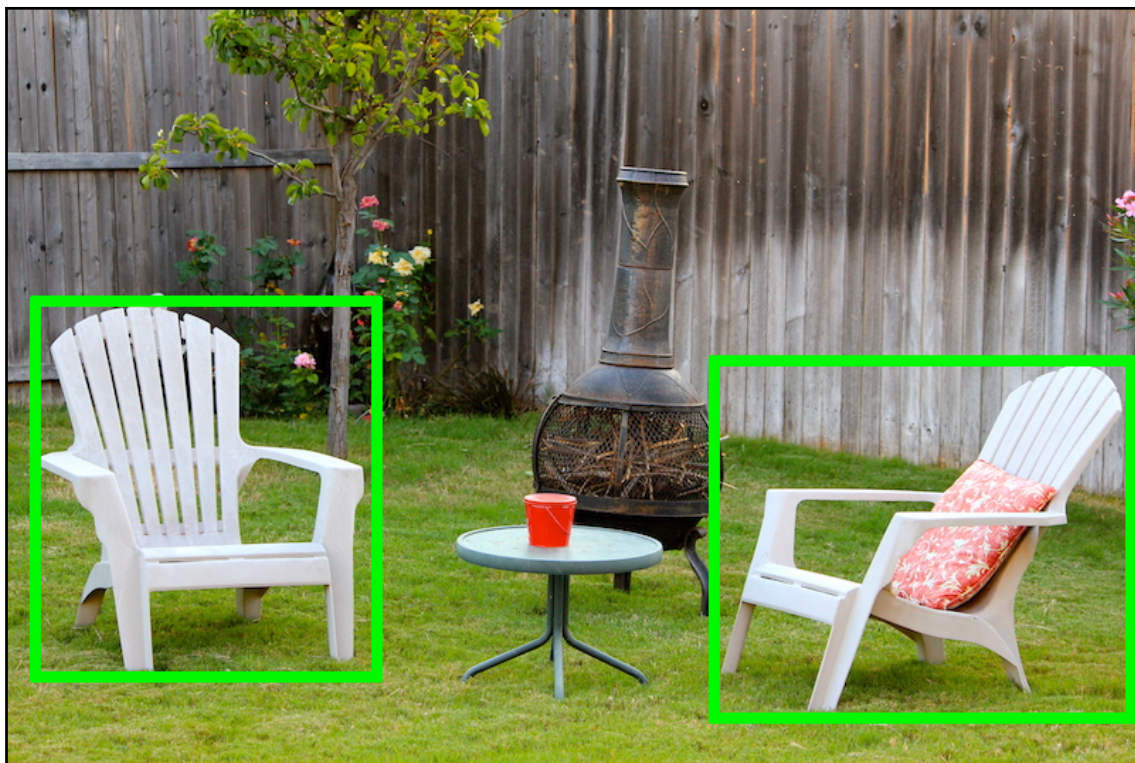








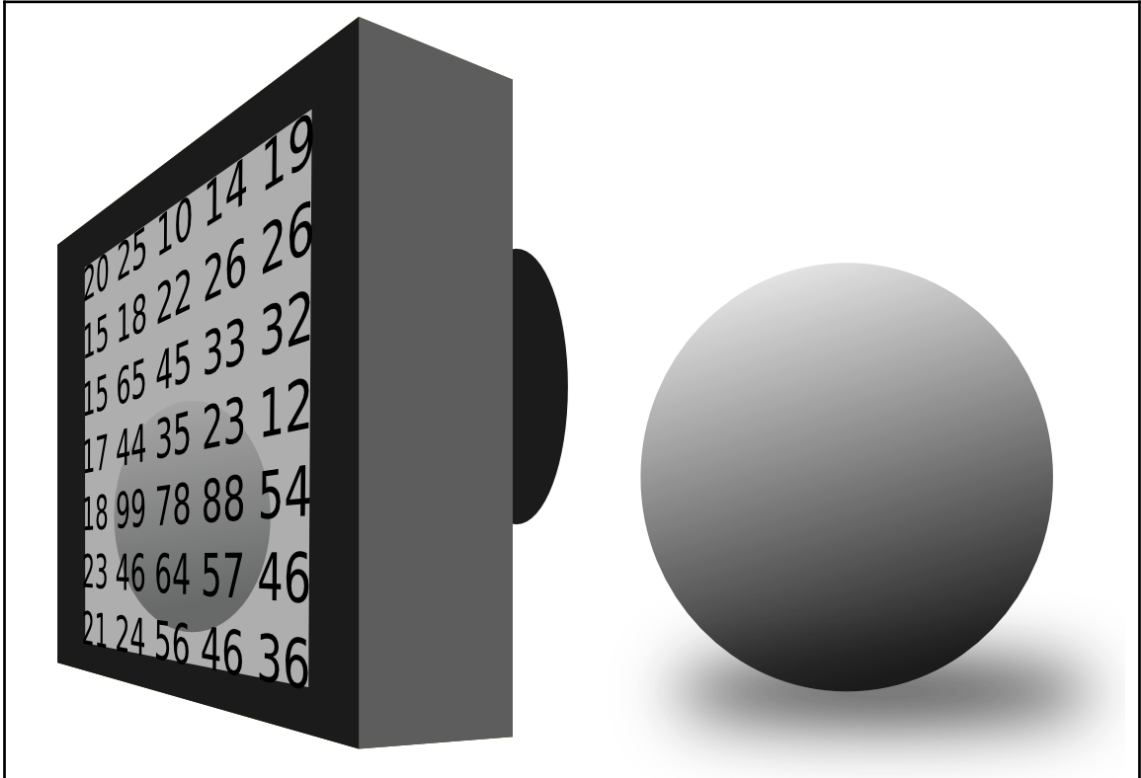




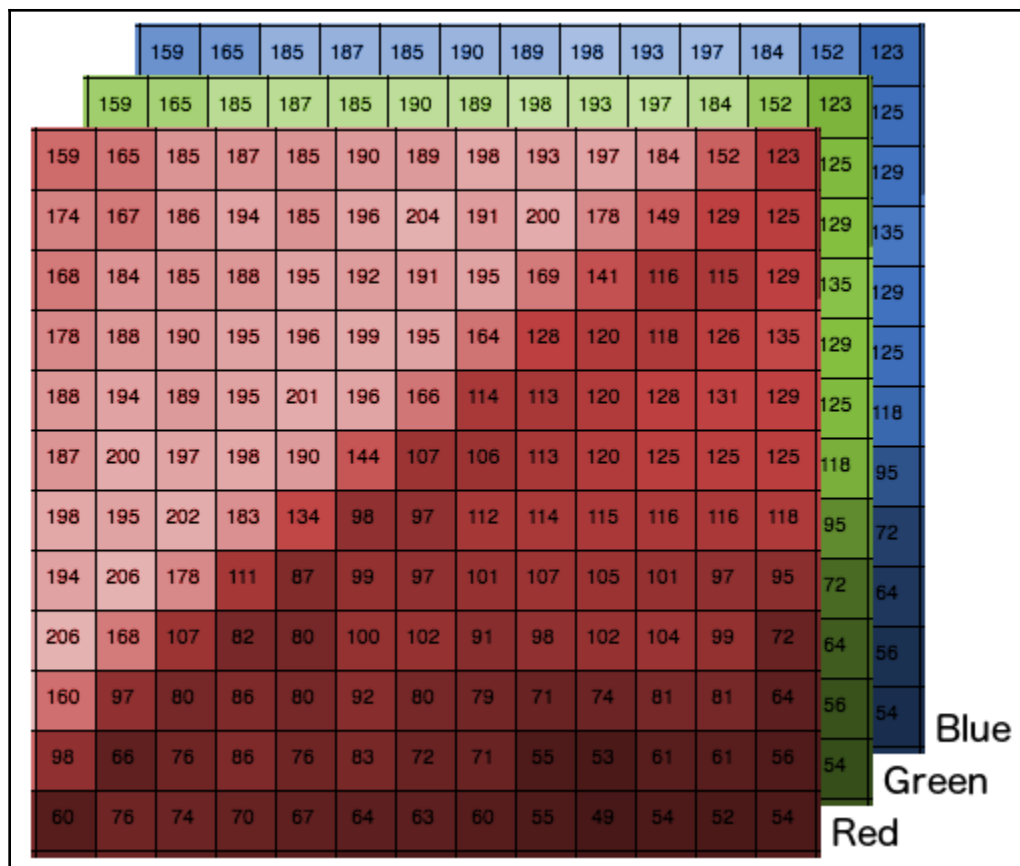




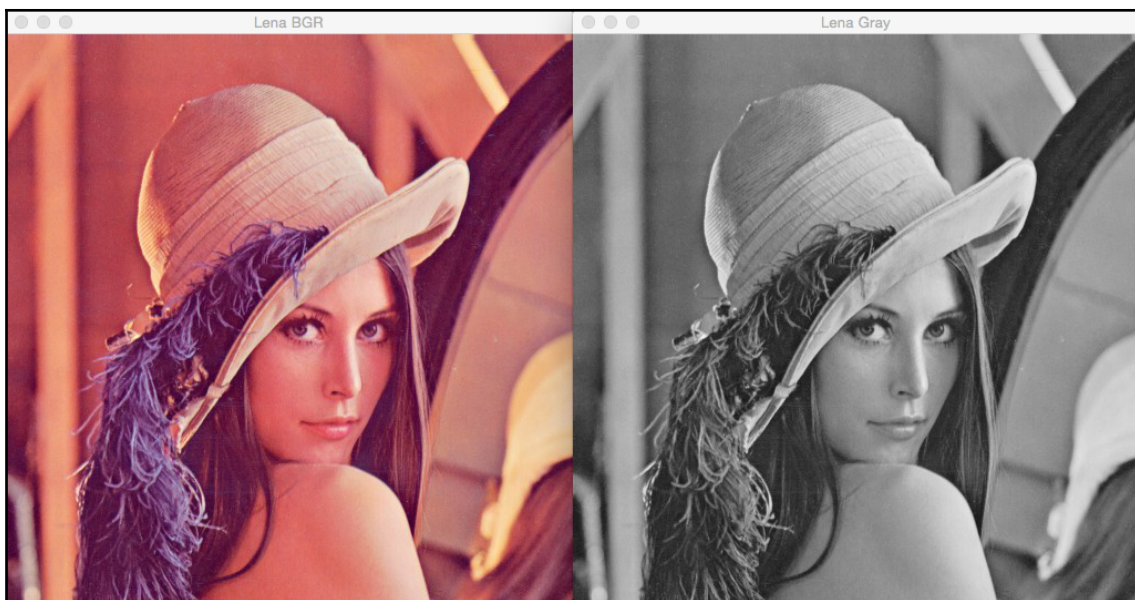
## Chapter 2: An Introduction to the Basics of OpenCV

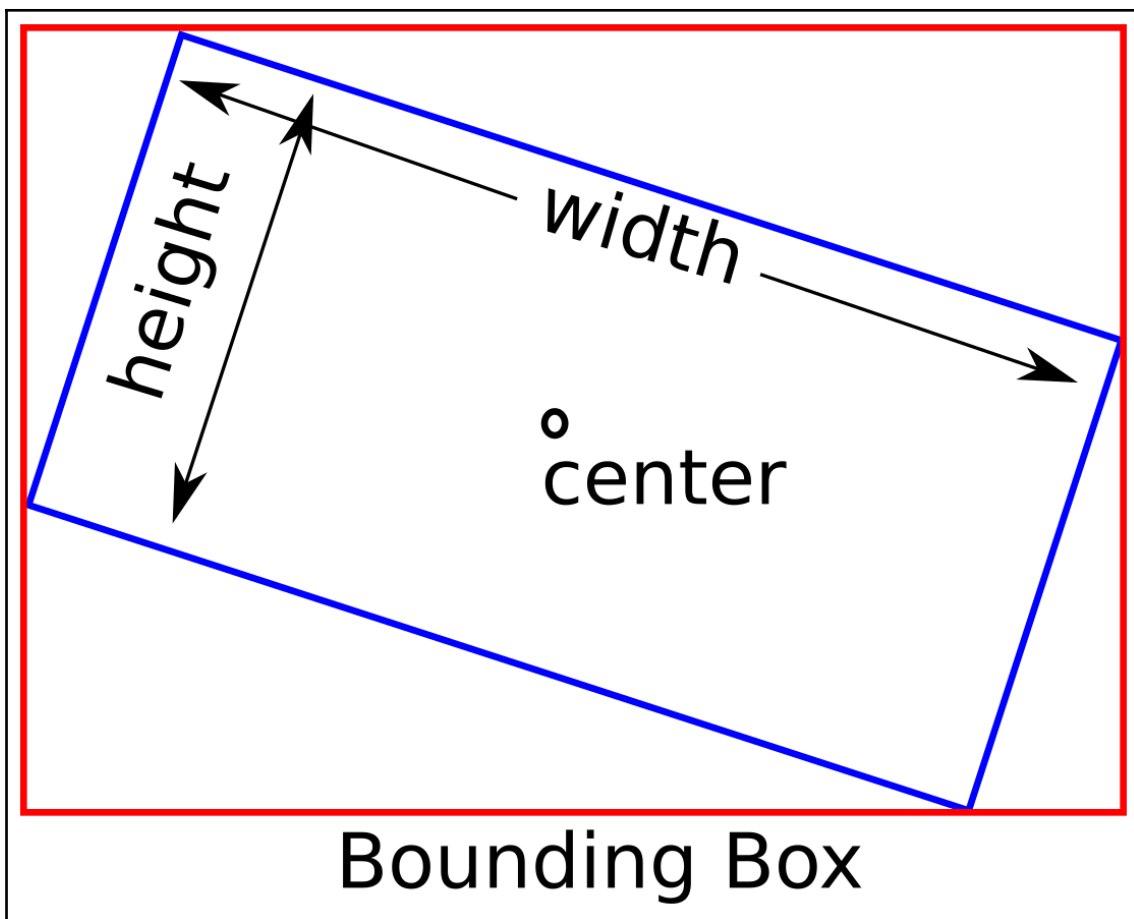


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174	167	186	194	185	196	204	191	200	178	149	129	125
168	184	185	188	195	192	191	195	169	141	116	115	129
178	188	190	195	196	199	195	164	128	120	118	126	135
188	194	189	195	201	196	166	114	113	120	128	131	129
187	200	197	198	190	144	107	106	113	120	125	125	125
198	195	202	183	134	98	97	112	114	115	116	116	118
194	206	178	111	87	99	97	101	107	105	101	97	95
206	168	107	82	80	100	102	91	98	102	104	99	72
160	97	80	86	80	92	80	79	71	74	81	81	64
98	66	76	86	76	83	72	71	55	53	61	61	56
60	76	74	70	67	64	63	60	55	49	54	52	54









[0, 0, 0, 0, 0;	[1, 1, 1, 1, 1;
0, 0, 0, 0, 0;	1, 1, 1, 1, 1;
0, 0, 0, 0, 0;	1, 1, 1, 1, 1;
0, 0, 0, 0, 0;	1, 1, 1, 1, 1;
0, 0, 0, 0, 0]	1, 1, 1, 1, 1]

$$\begin{bmatrix} 1, & 0, & 0, & 0, & 0; \\ 0, & 1, & 0, & 0, & 0; \\ 0, & 0, & 1, & 0, & 0; \\ 0, & 0, & 0, & 1, & 0; \\ 0, & 0, & 0, & 0, & 1 \end{bmatrix}$$

$$\begin{bmatrix} 1, & 0, & 0; \\ 0, & 1, & 0 \end{bmatrix} + \begin{bmatrix} 1, & 1, & 1; \\ 1, & 1, & 1 \end{bmatrix} = \begin{bmatrix} 2, & 1, & 1; \\ 1, & 2, & 1 \end{bmatrix}$$

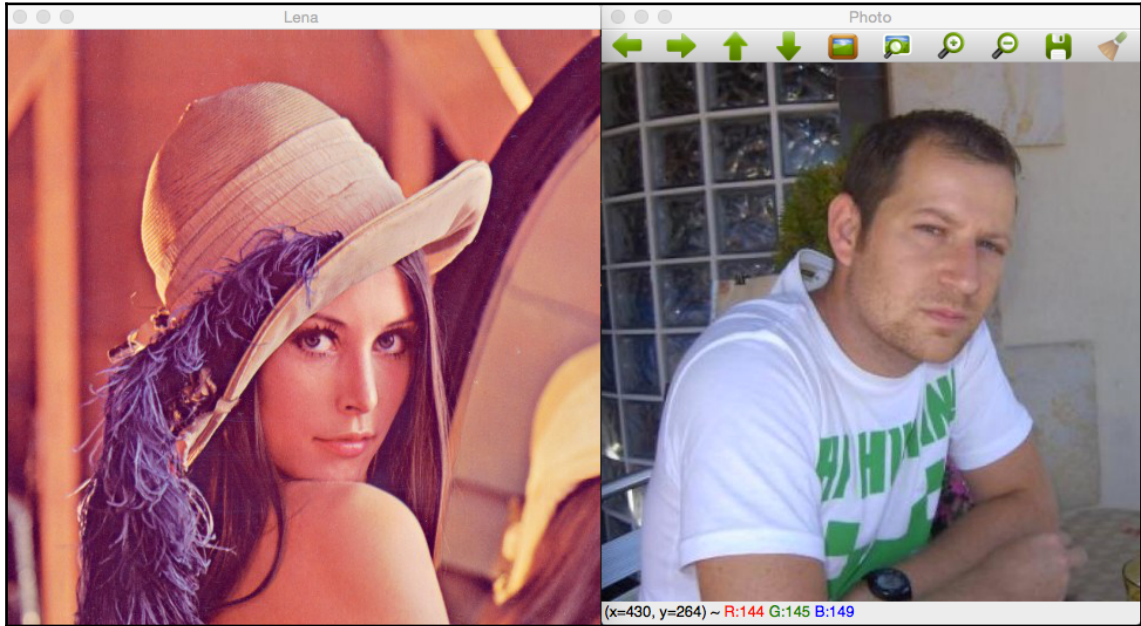
$$\begin{bmatrix} 1, & 0, & 0; \\ 0, & 1, & 0 \end{bmatrix} - \begin{bmatrix} 1, & 1, & 1; \\ 1, & 1, & 1 \end{bmatrix} = \begin{bmatrix} 0, & -1, & -1; \\ -1, & 0, & -1 \end{bmatrix}$$

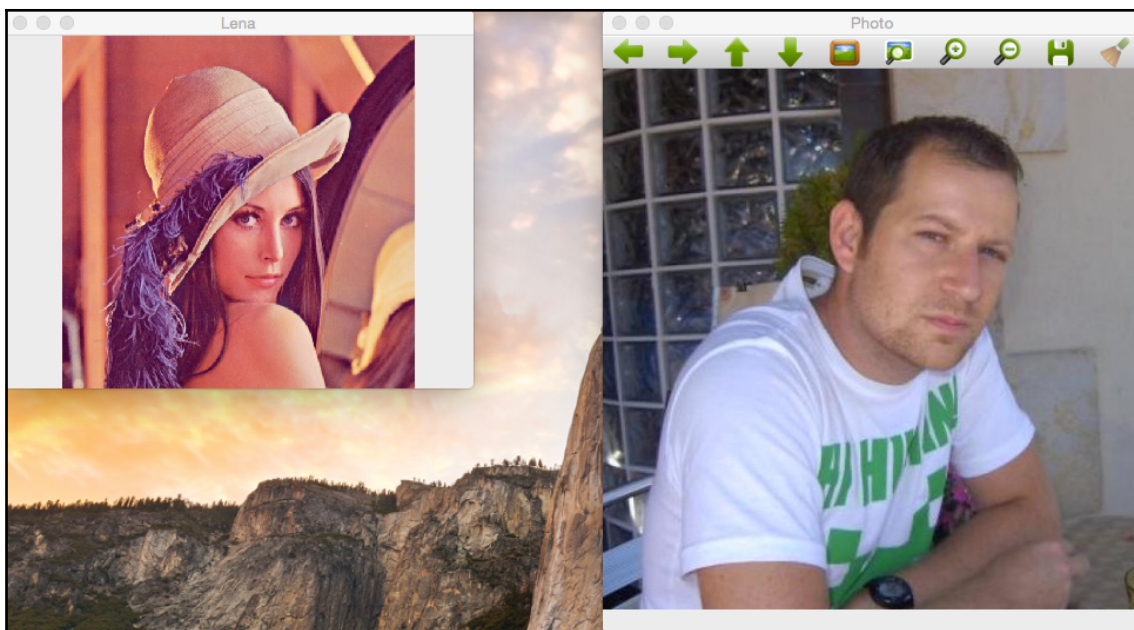
$$\begin{bmatrix} 1, & 0, & 0; \\ 0, & 1, & 0 \end{bmatrix} * 2 = \begin{bmatrix} 2, & 0, & 0; \\ 0, & 2, & 0 \end{bmatrix}$$

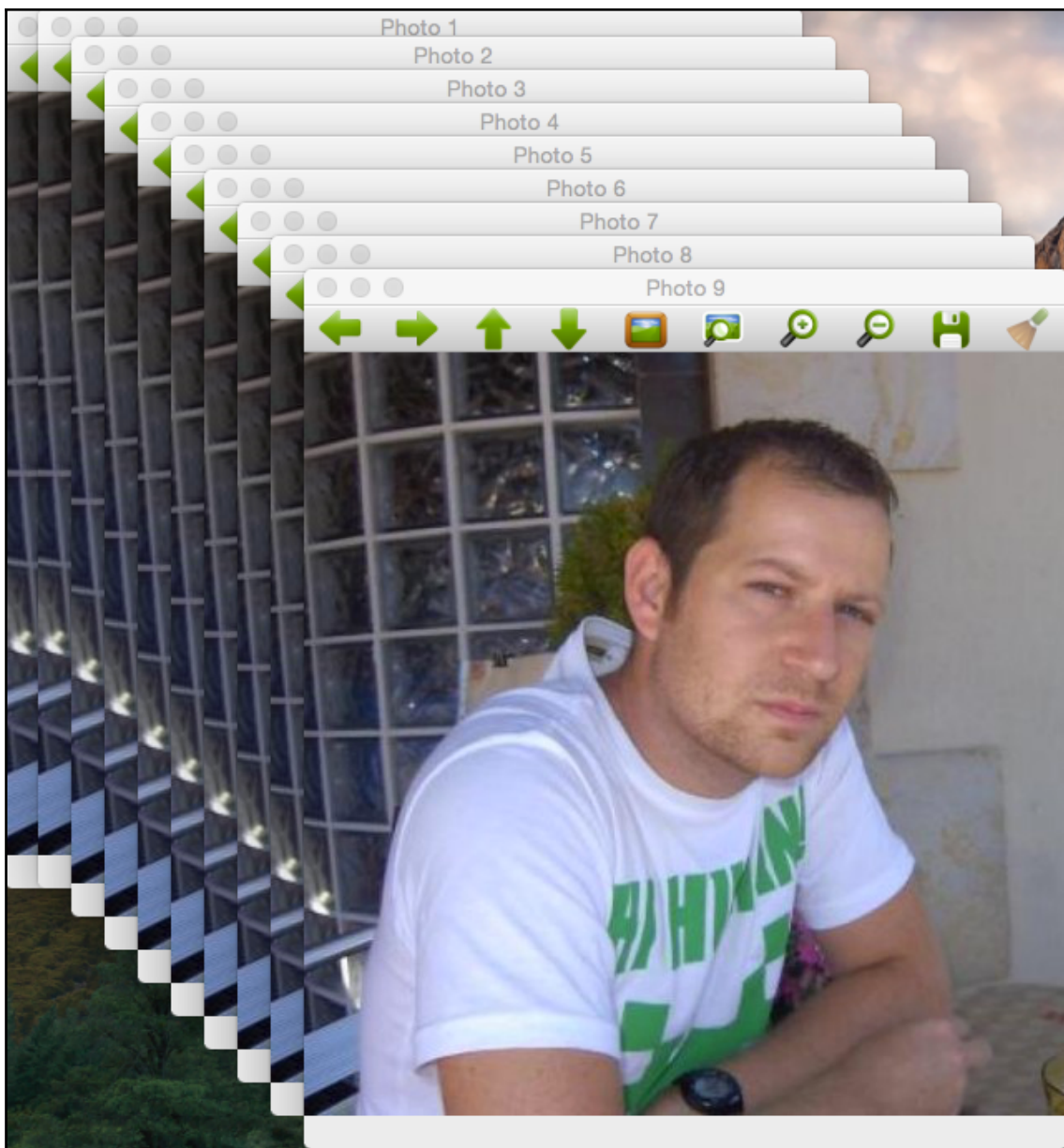
$$\begin{bmatrix} 2, & 1, & 1; \\ 1, & 2, & 1 \end{bmatrix} \cdot \begin{bmatrix} 4, & 3, & 3; \\ 3, & 4, & 3 \end{bmatrix} = \begin{bmatrix} 8, & 3, & 3; \\ 3, & 8, & 3 \end{bmatrix}$$

$$\begin{bmatrix} 1, & 0, & 0; \\ 0, & 1, & 0 \end{bmatrix} * \begin{bmatrix} 1, & 1; \\ 1, & 1; \\ 1, & 1 \end{bmatrix} = \begin{bmatrix} 1, & 1; \\ 1, & 1 \end{bmatrix}$$

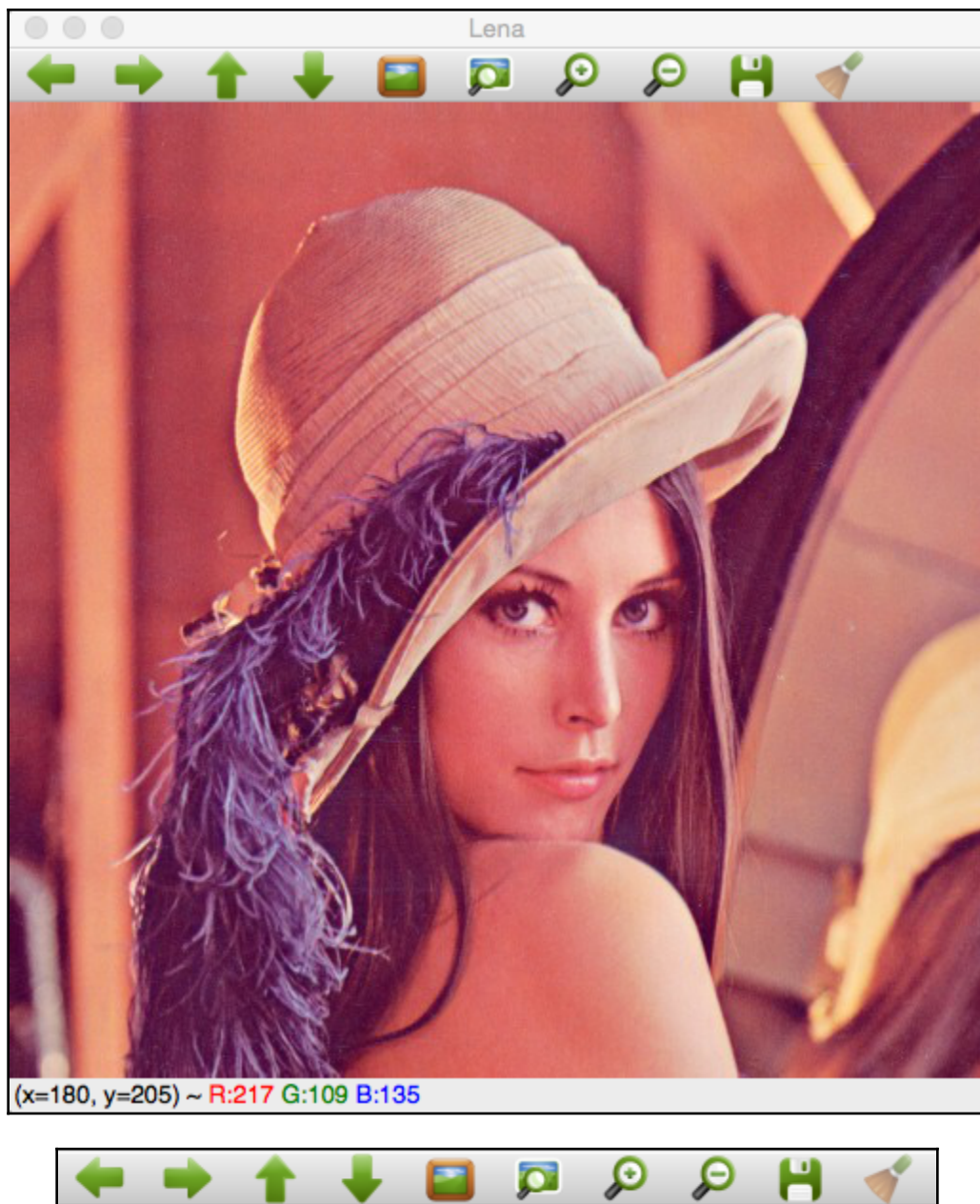
## Chapter 3: Learning Graphical User Interfaces

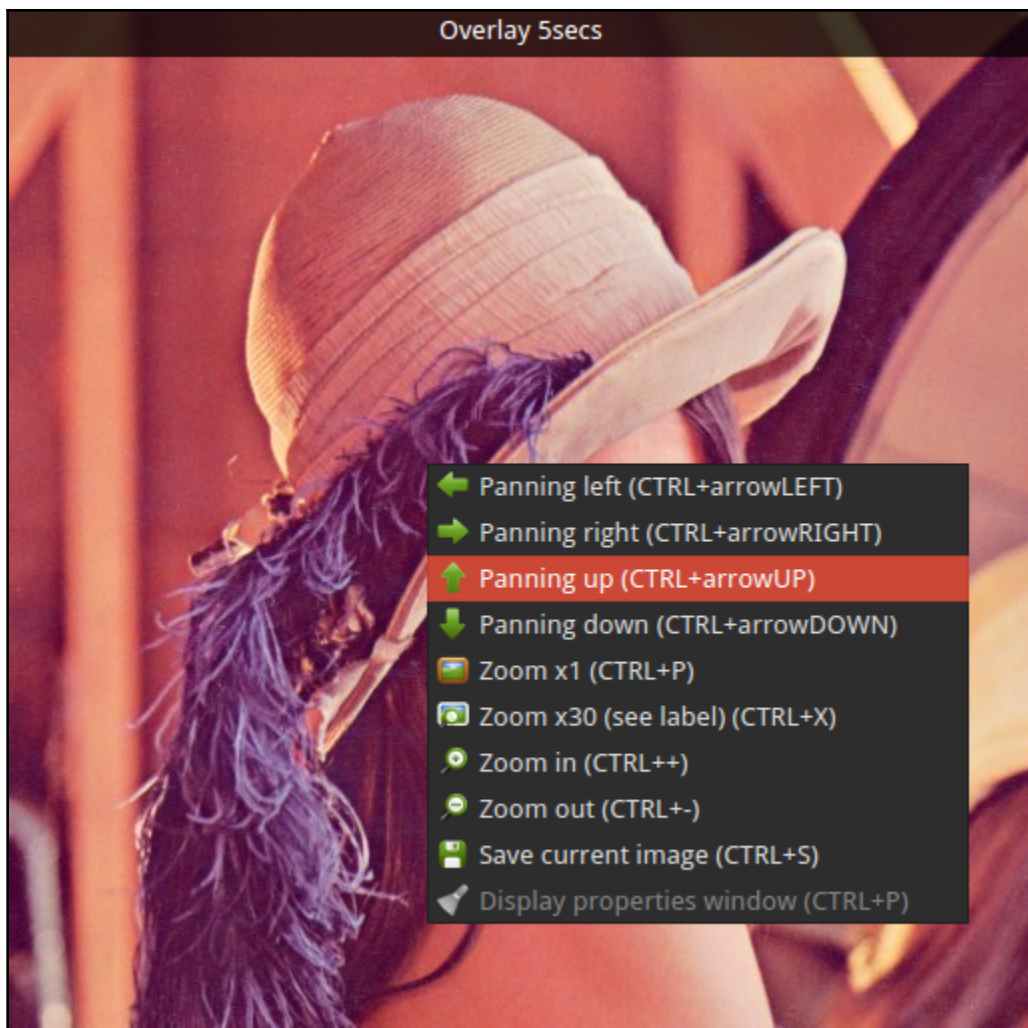


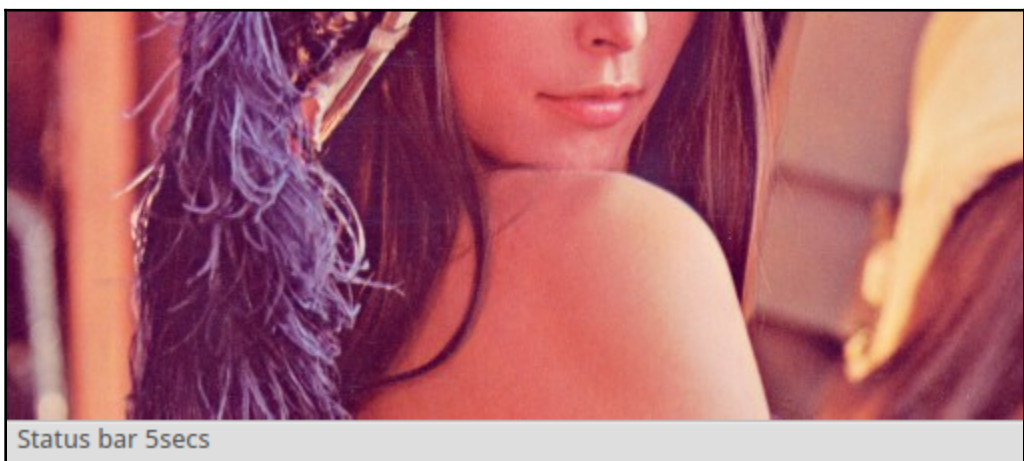
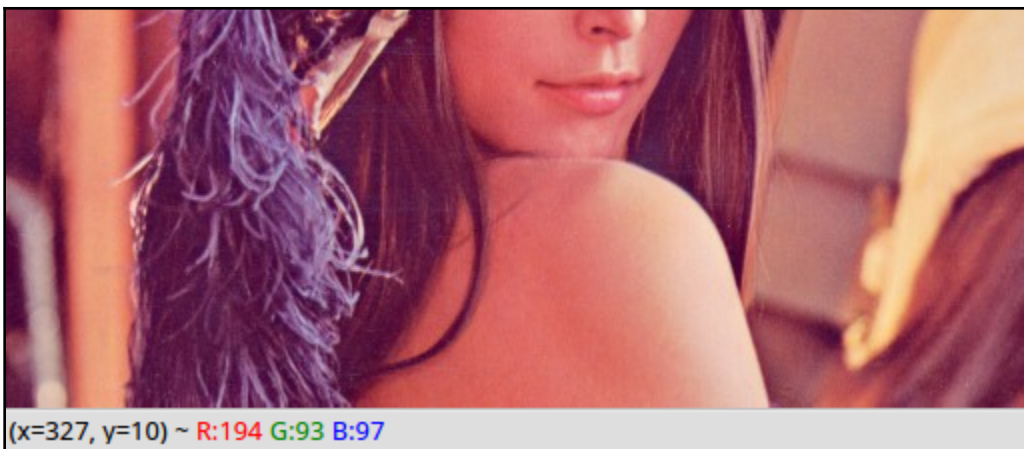


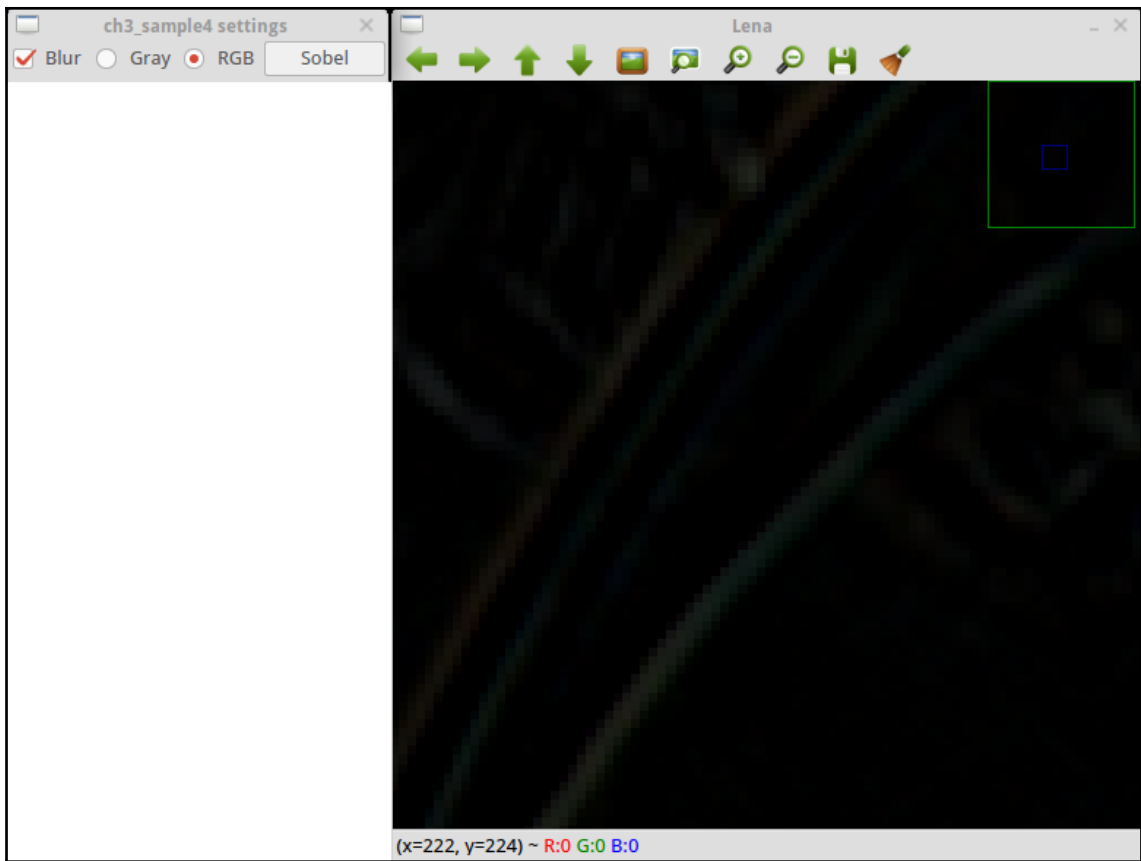


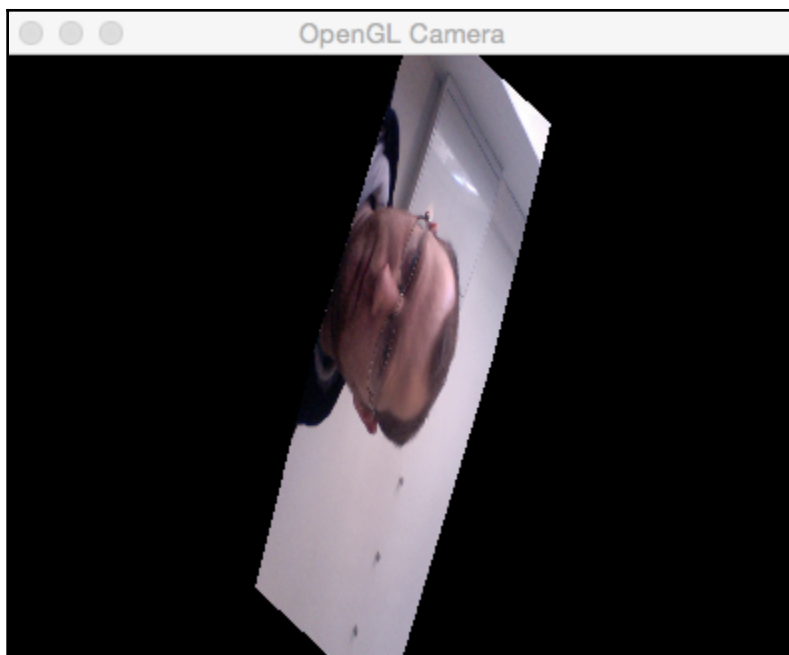




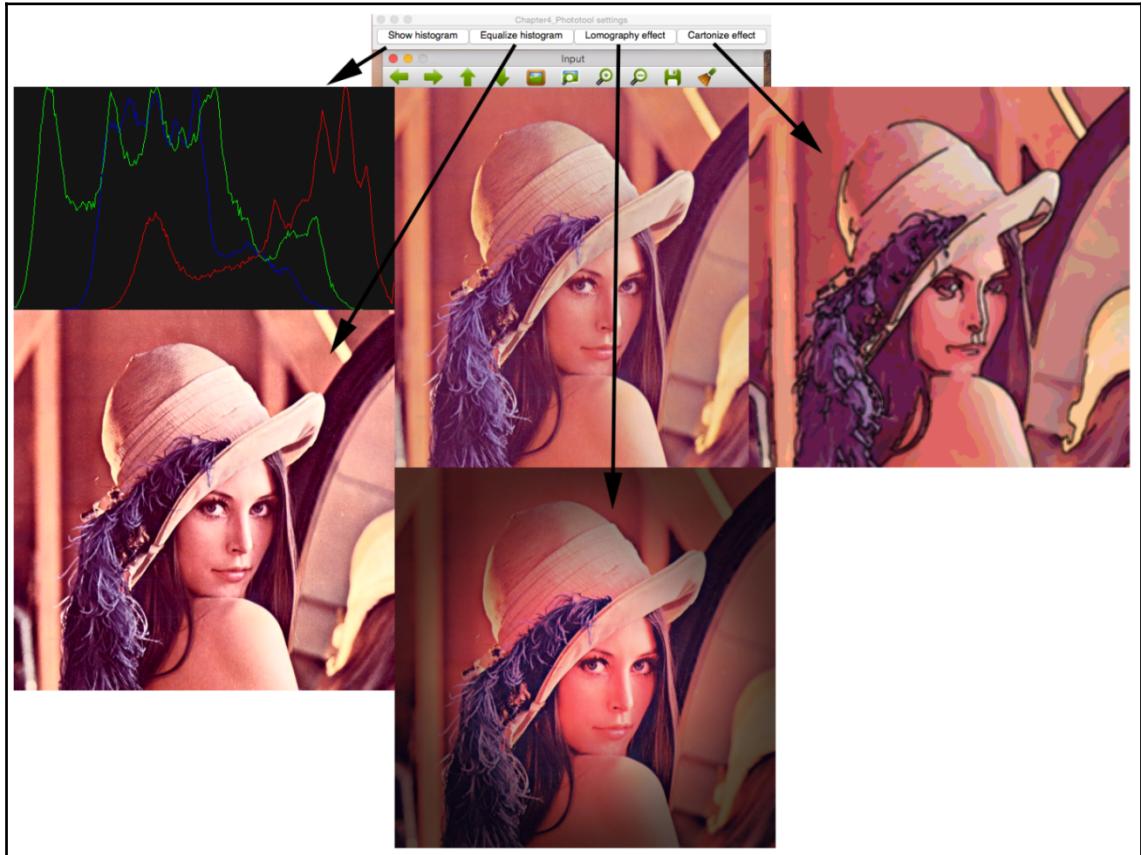




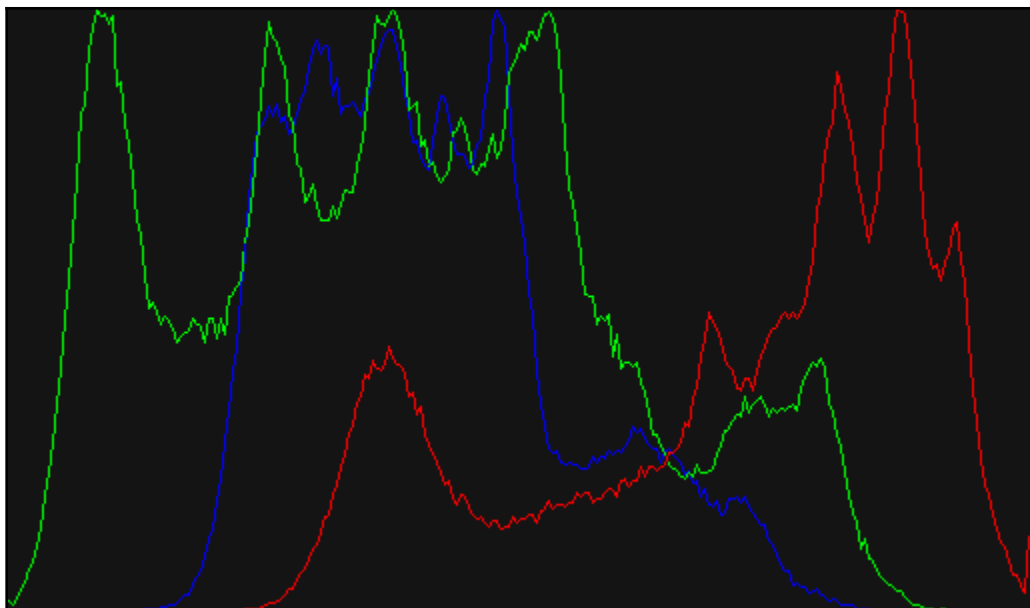


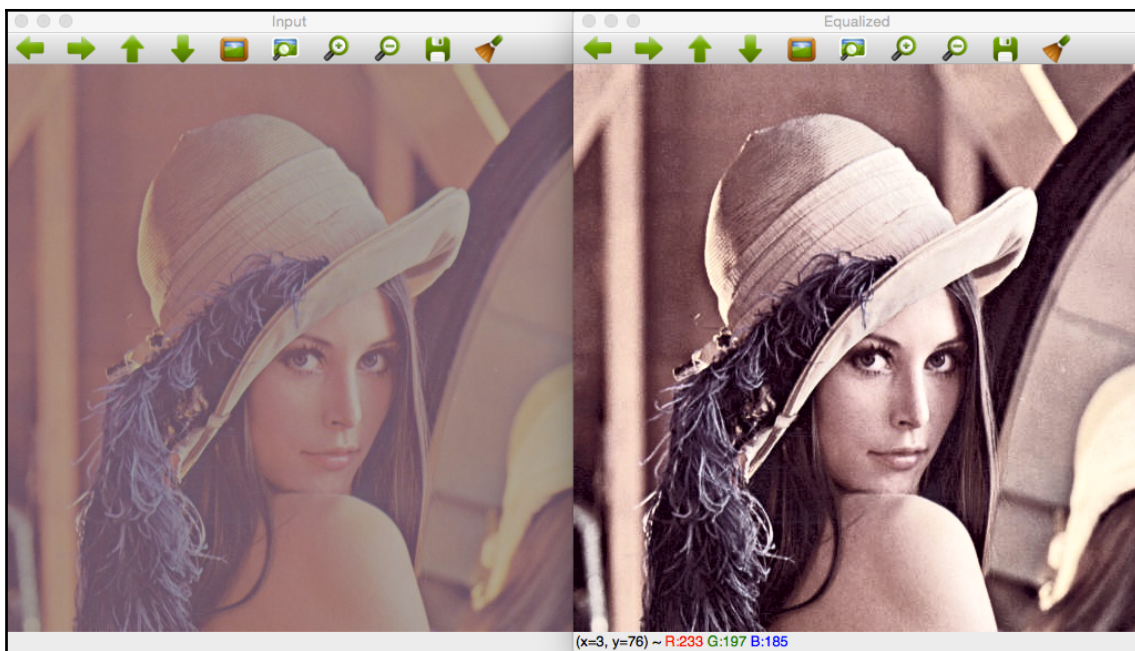


## Chapter 4: Delving into Histogram and Filters



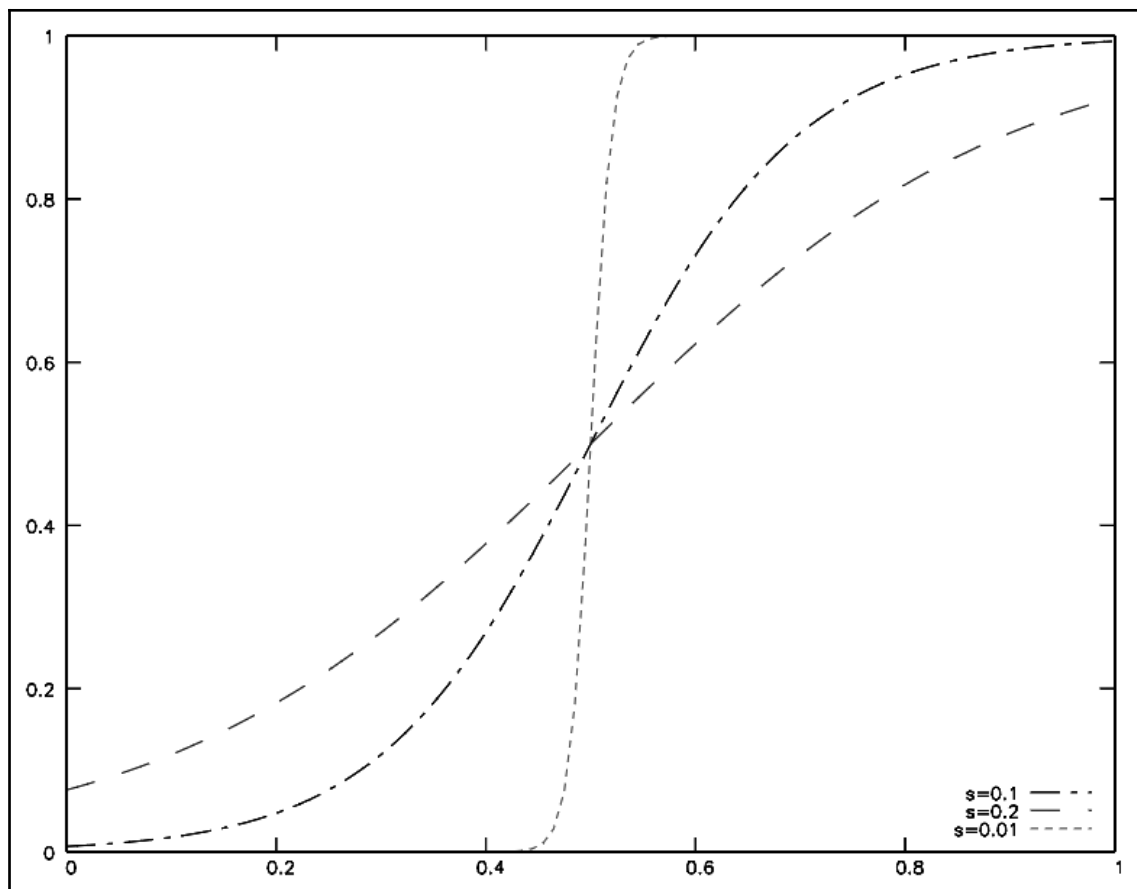


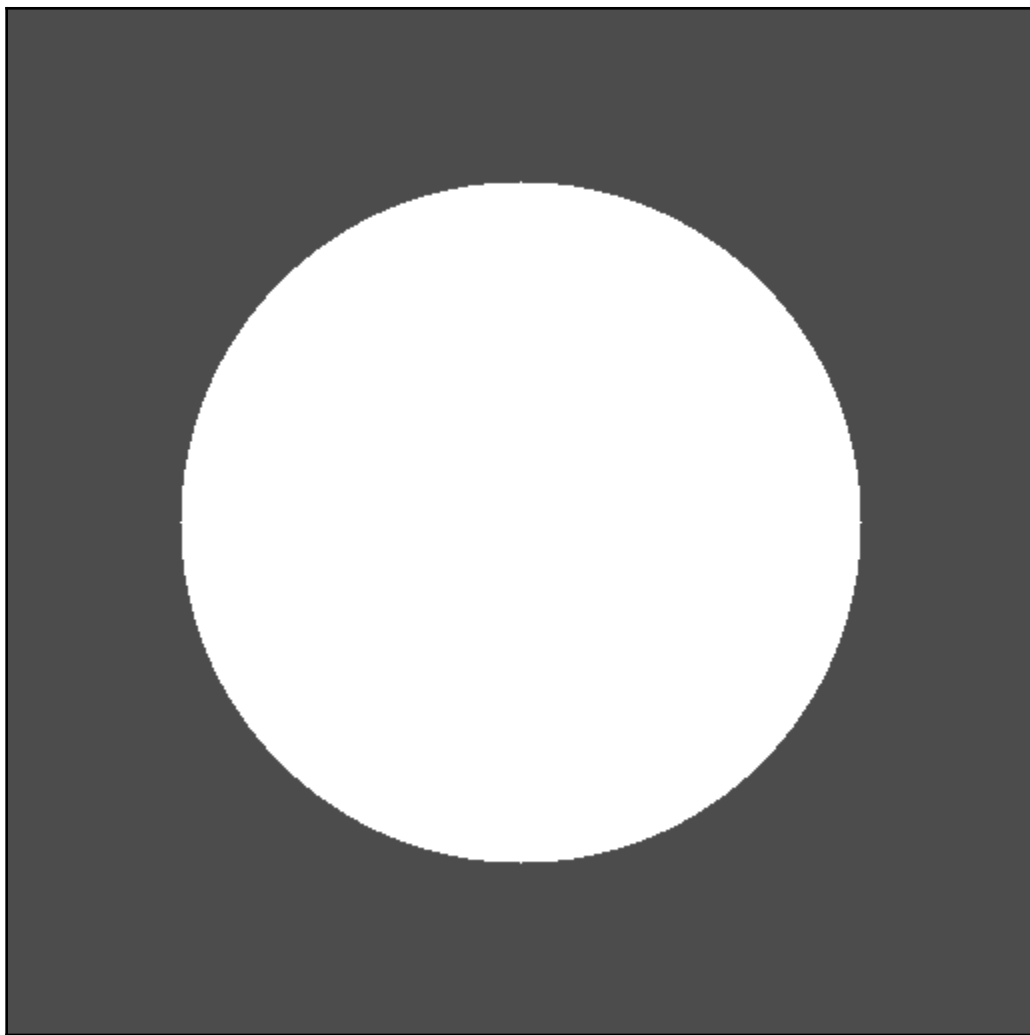


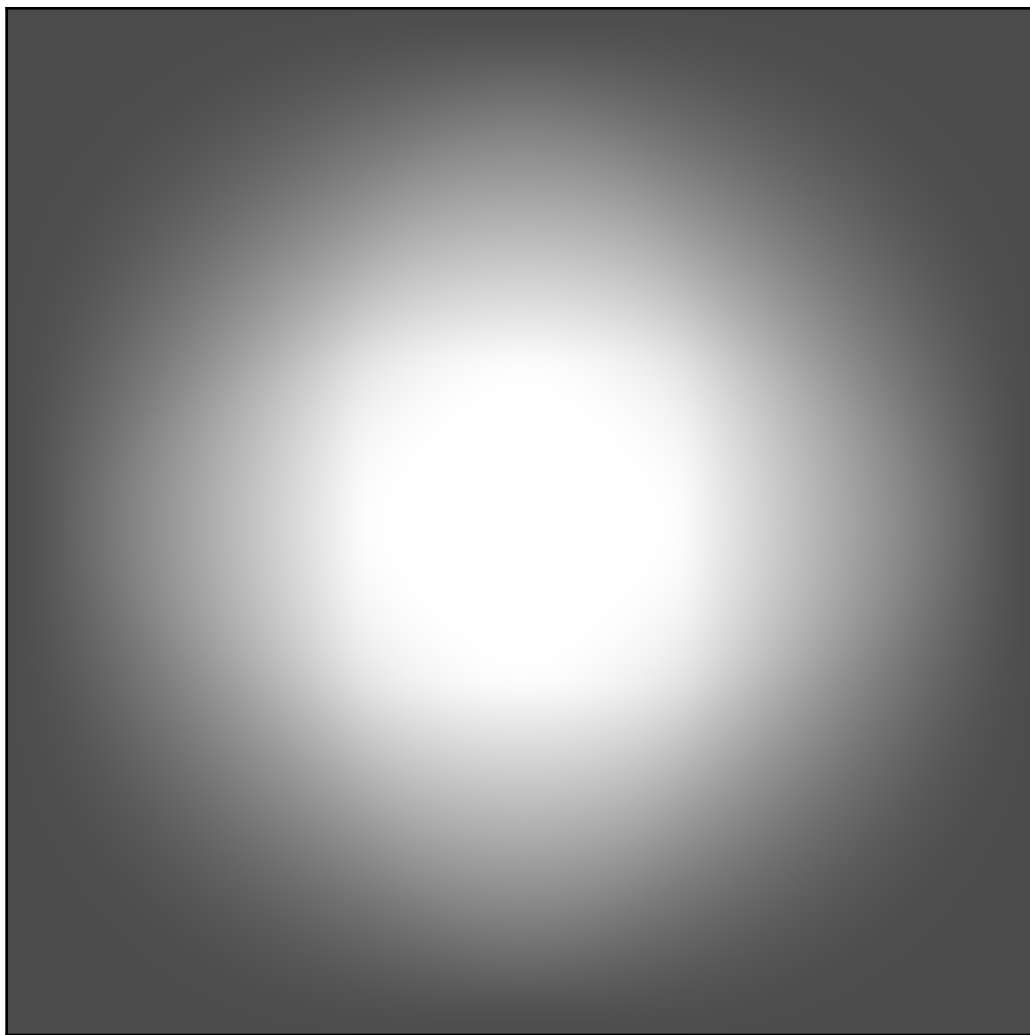


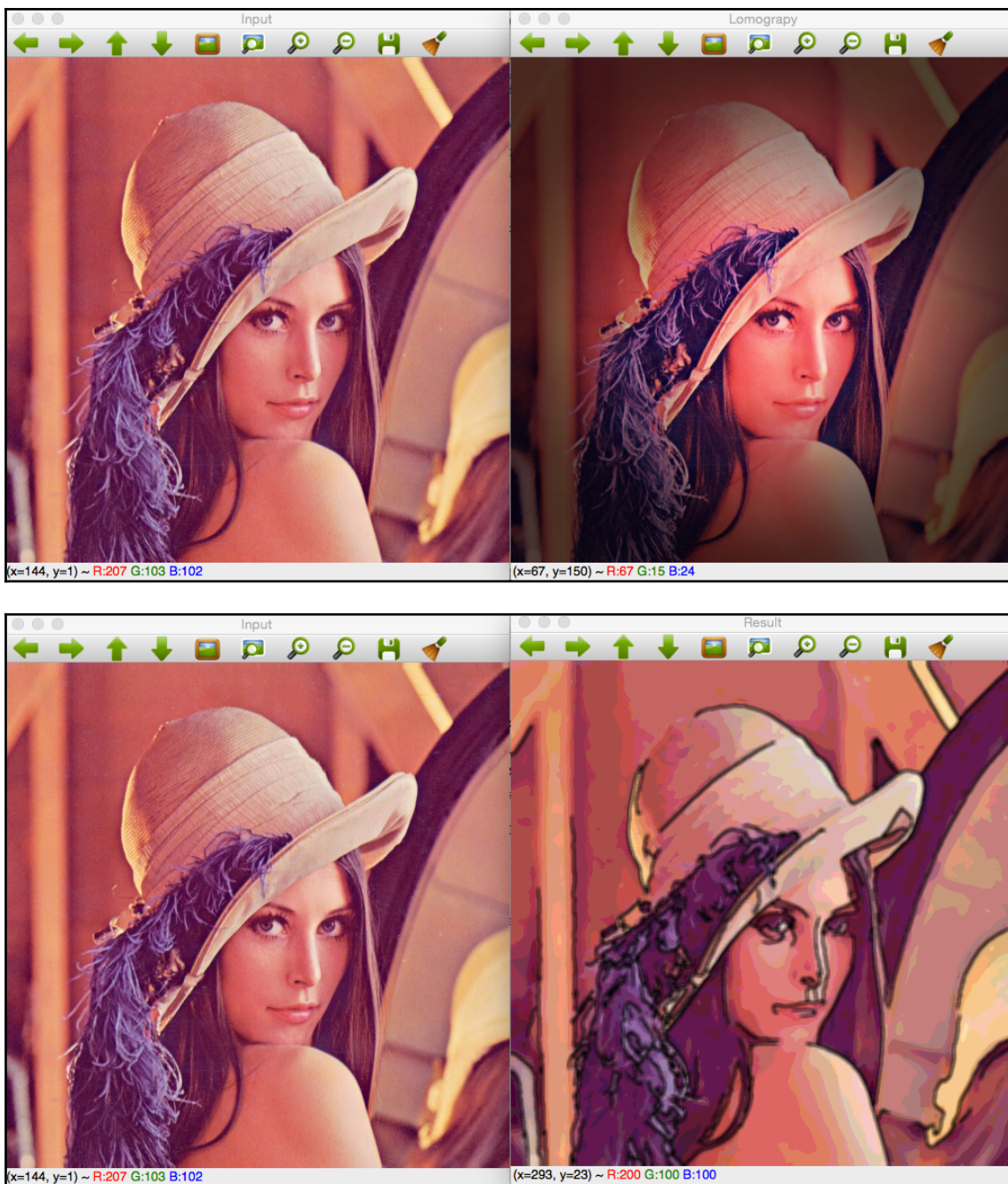
$$\frac{1}{1 + e^{-\frac{x-0.5}{s}}}$$



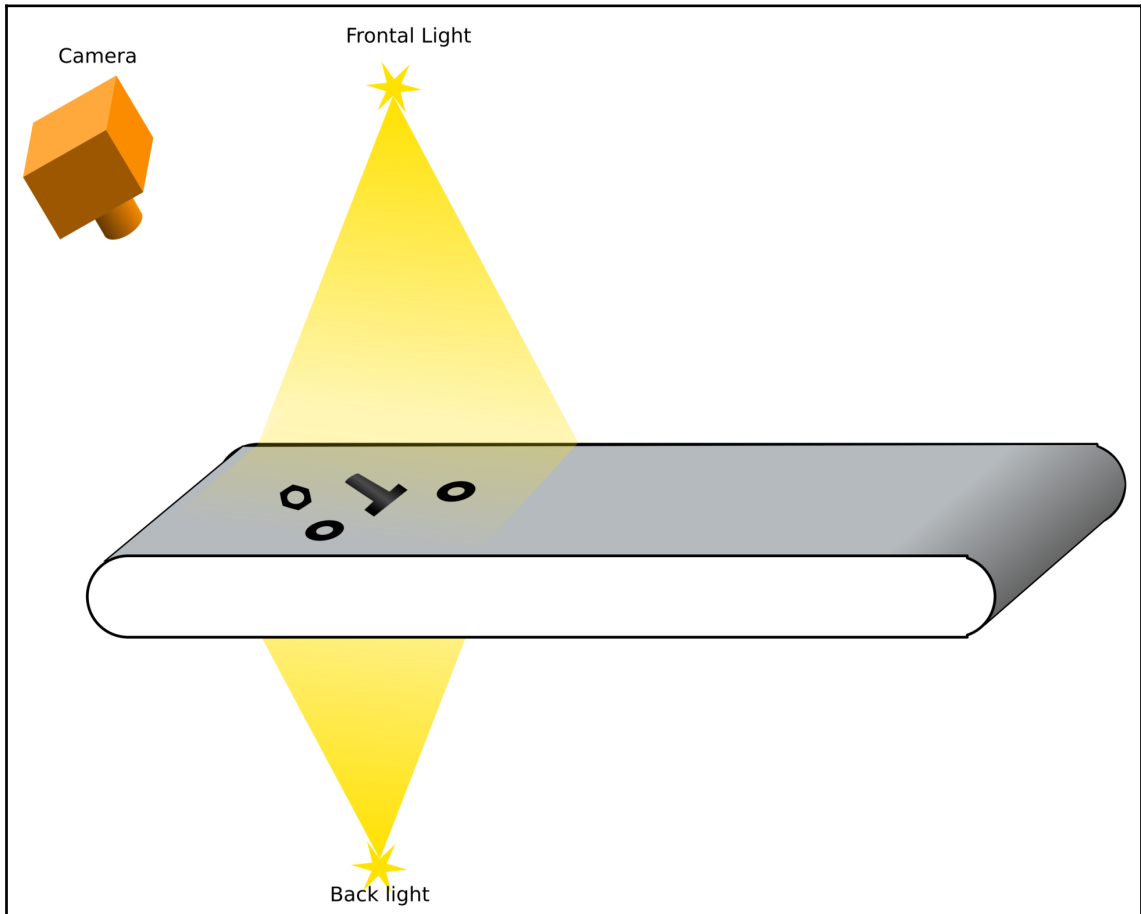


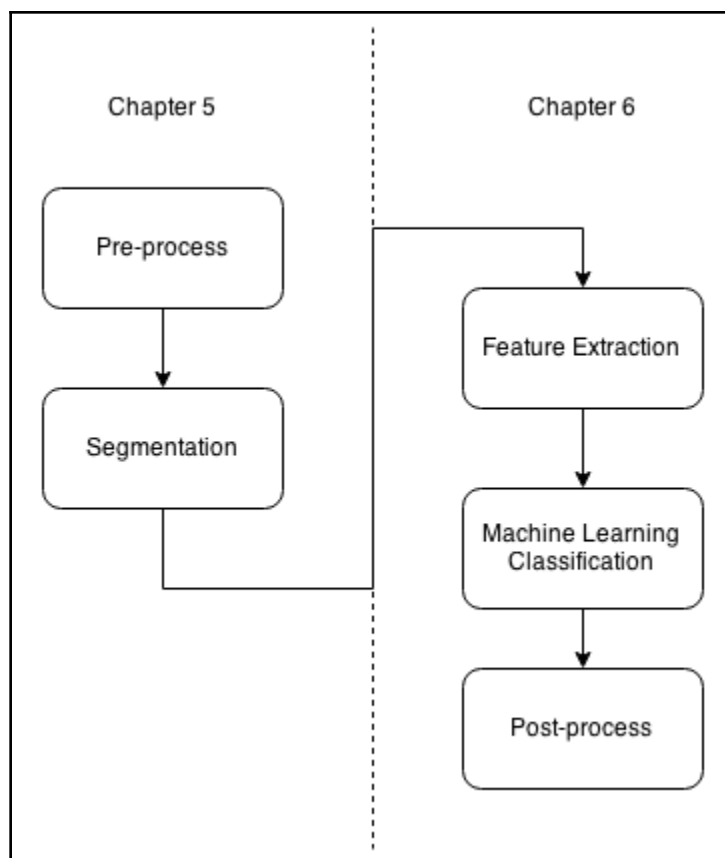
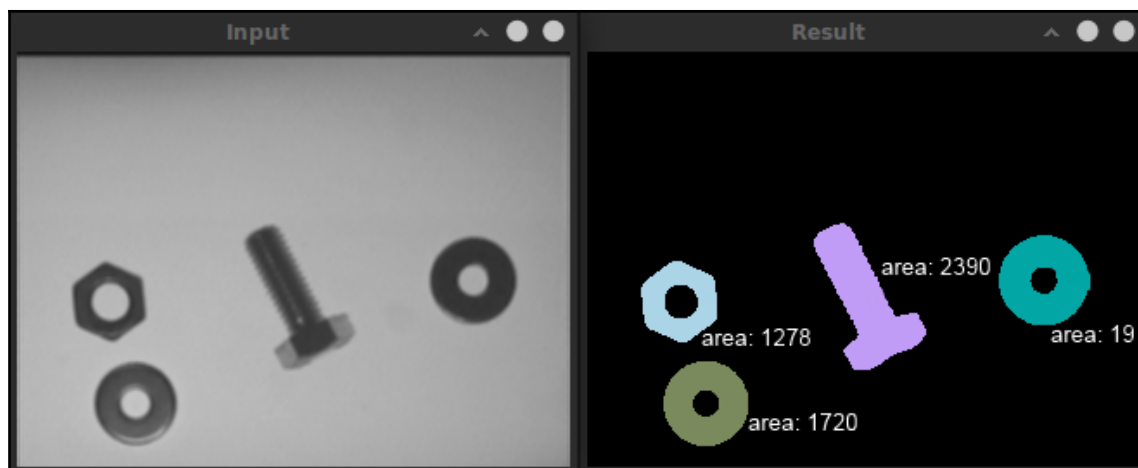


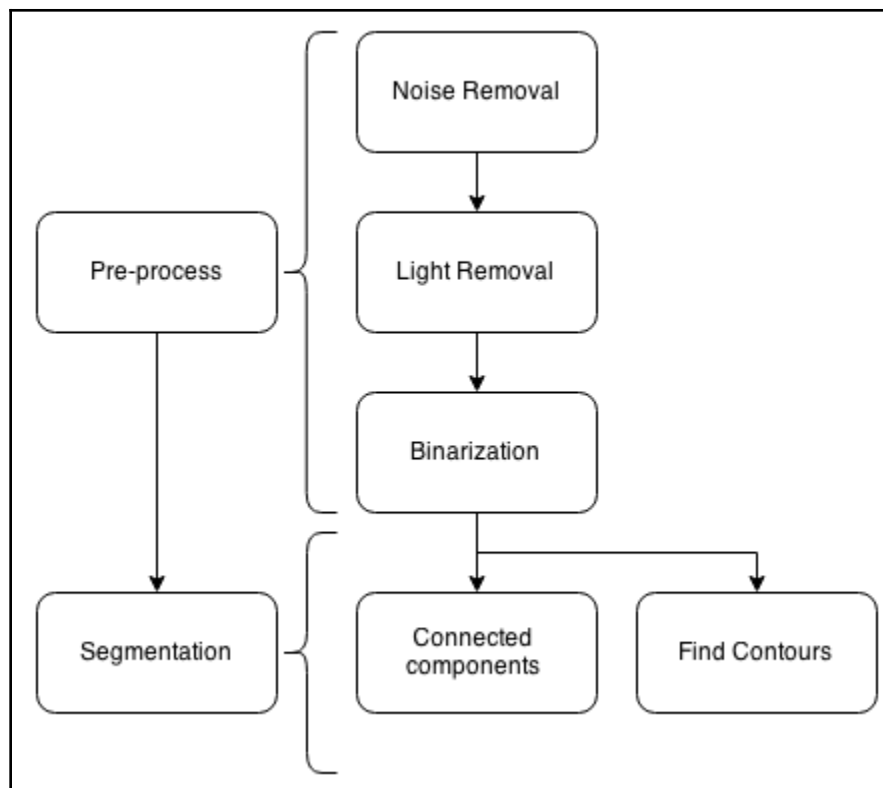


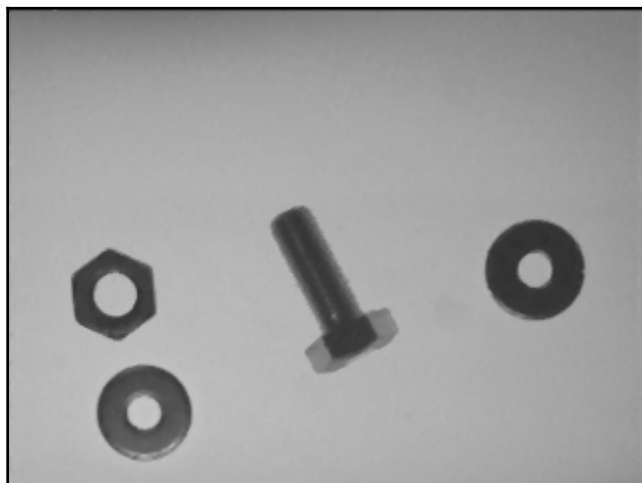
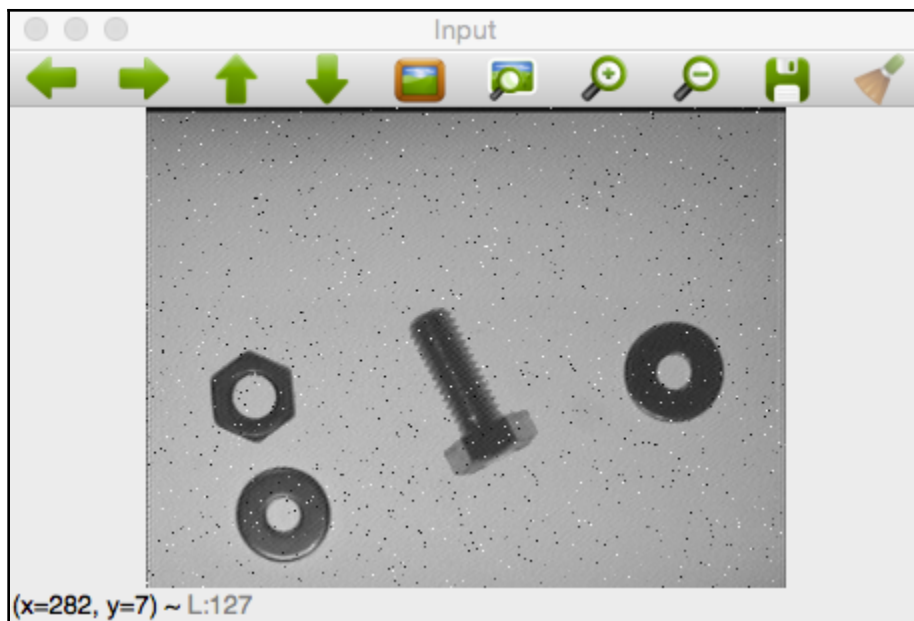


## Chapter 5: Automated Optical Inspection, Object Segmentation, and Detection

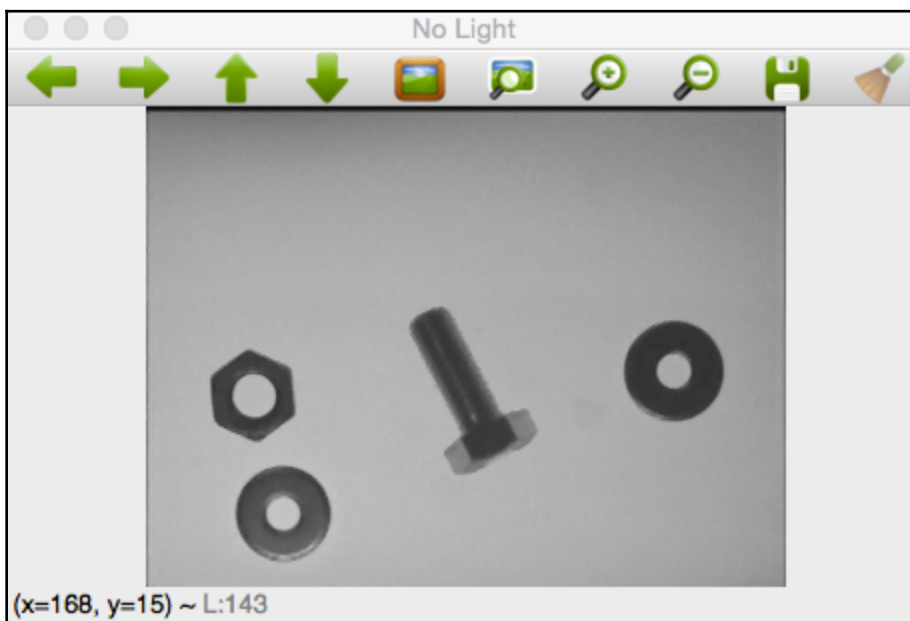
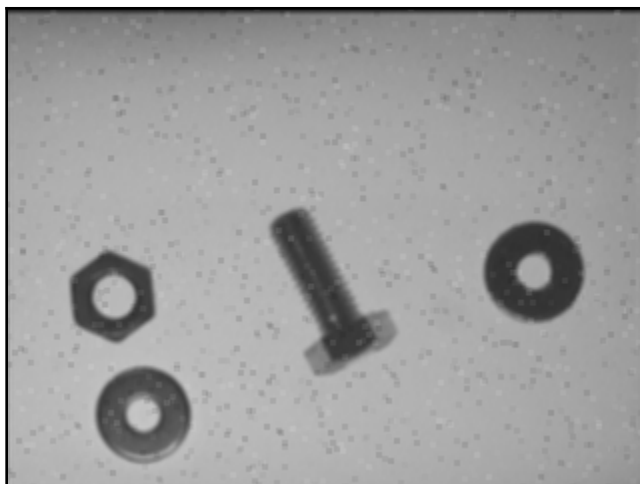


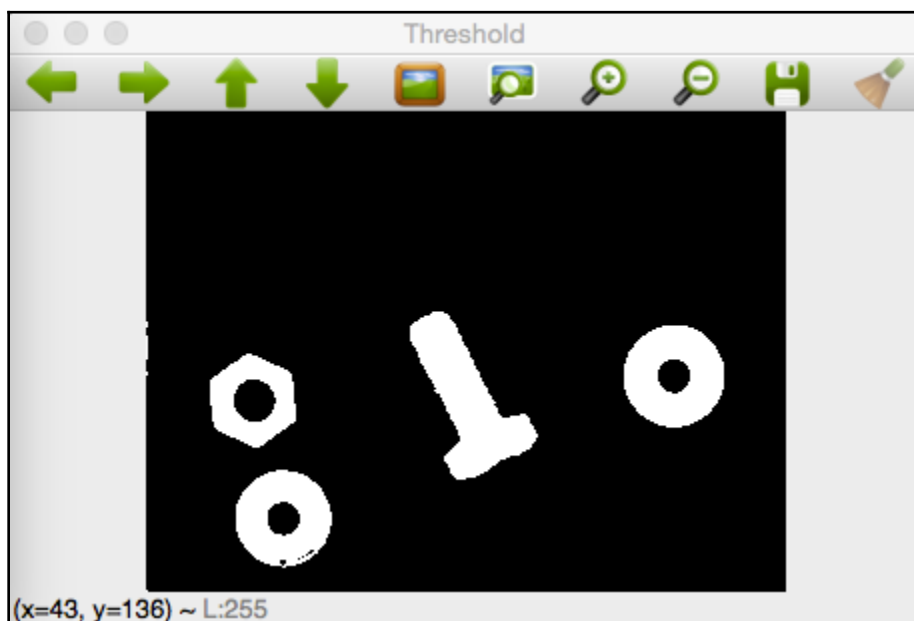


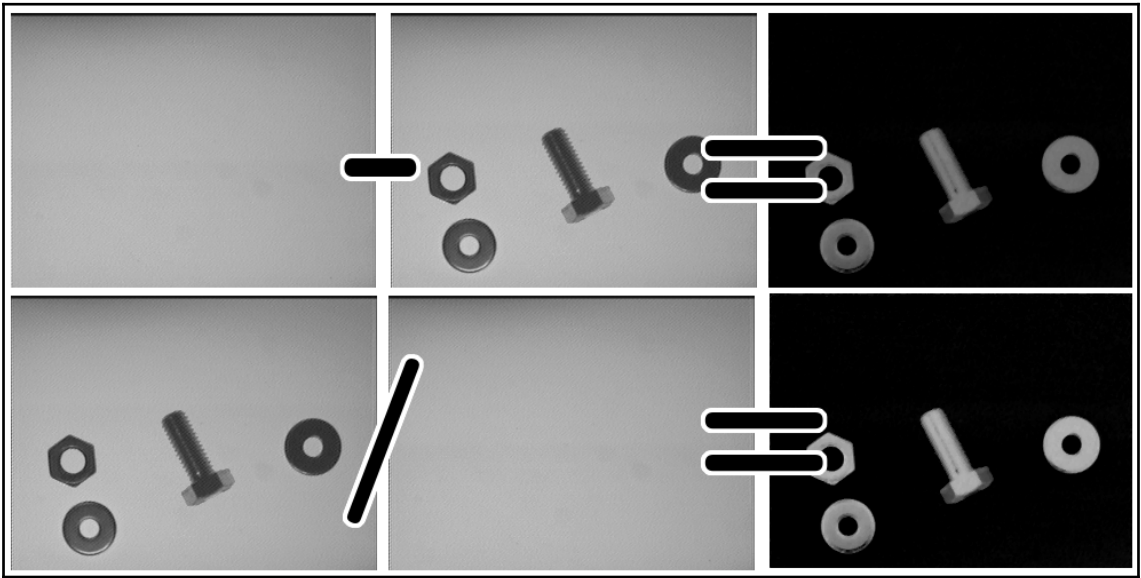


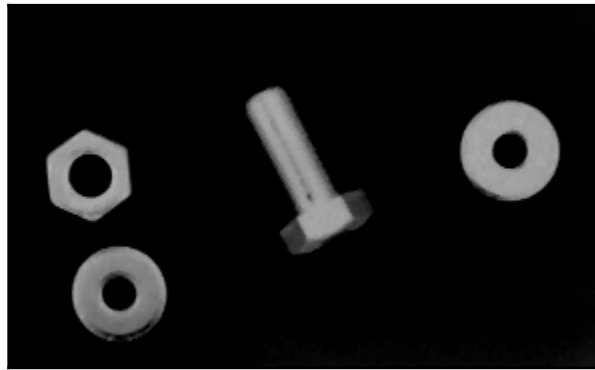
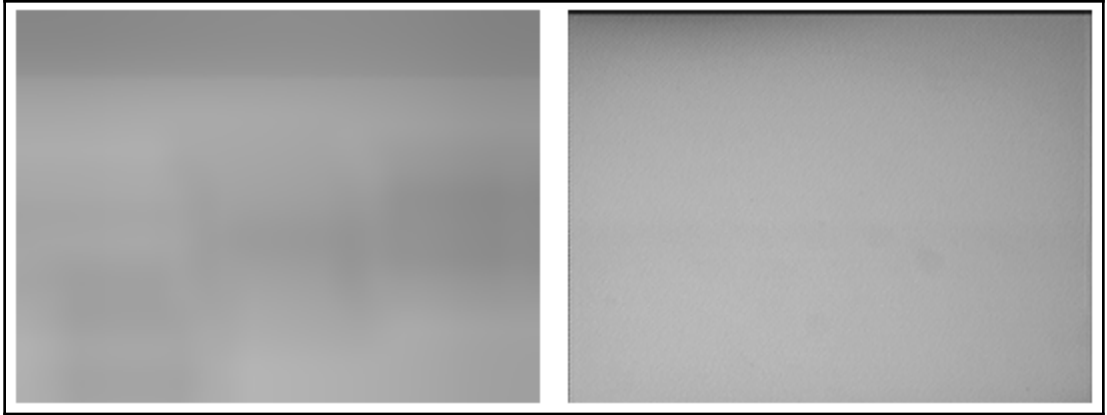






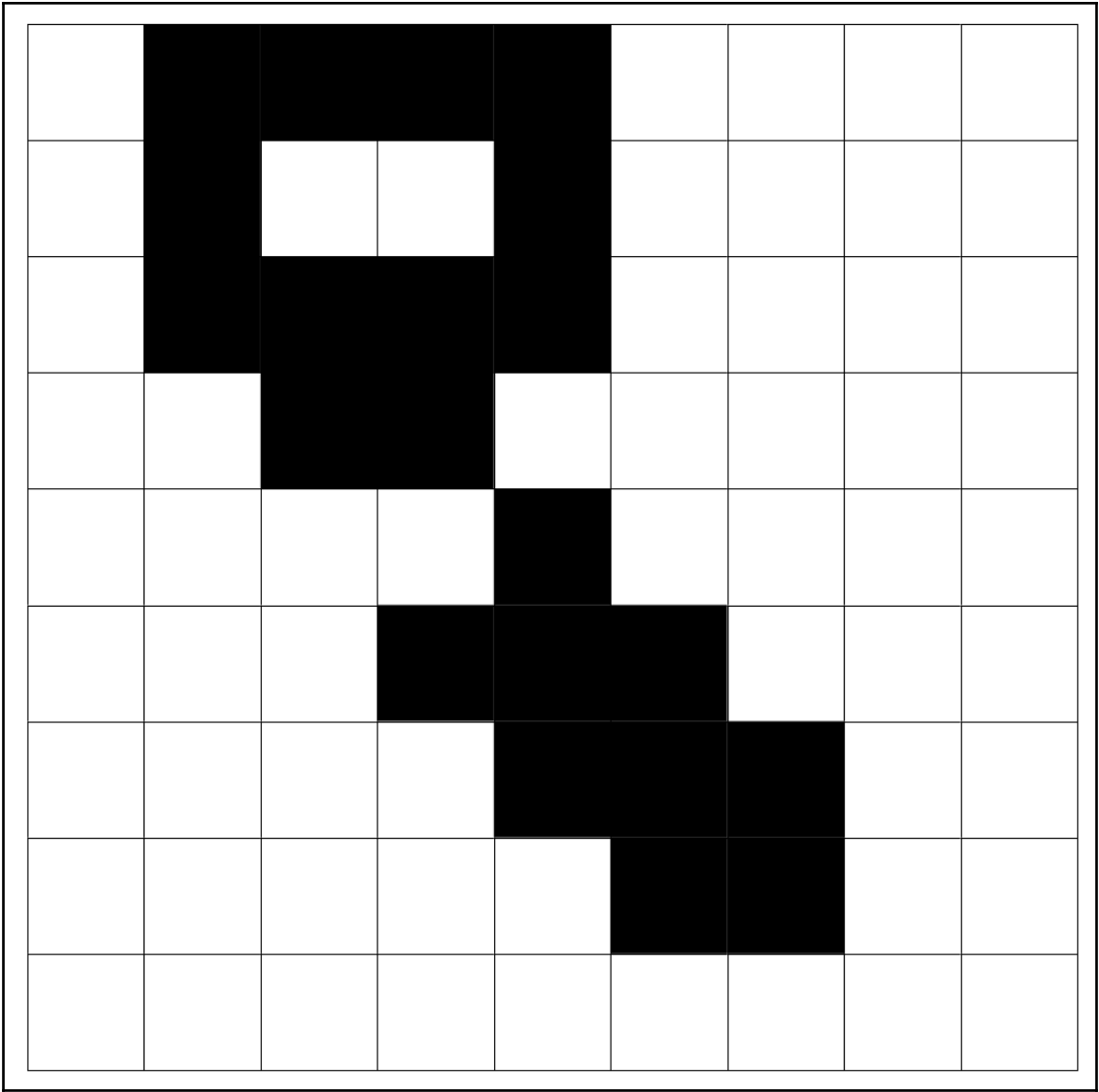


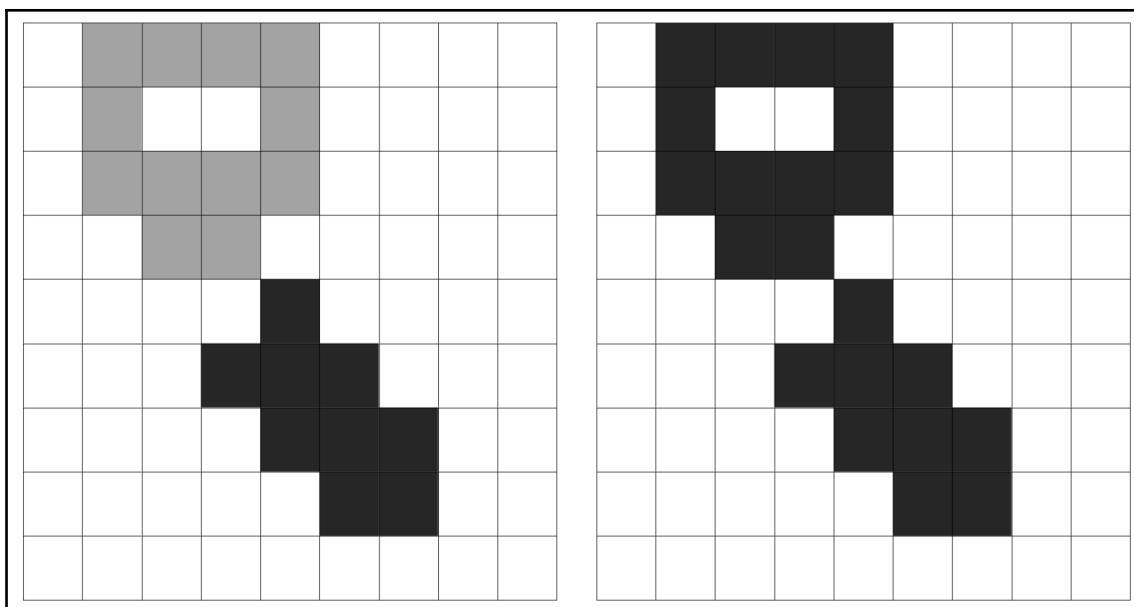


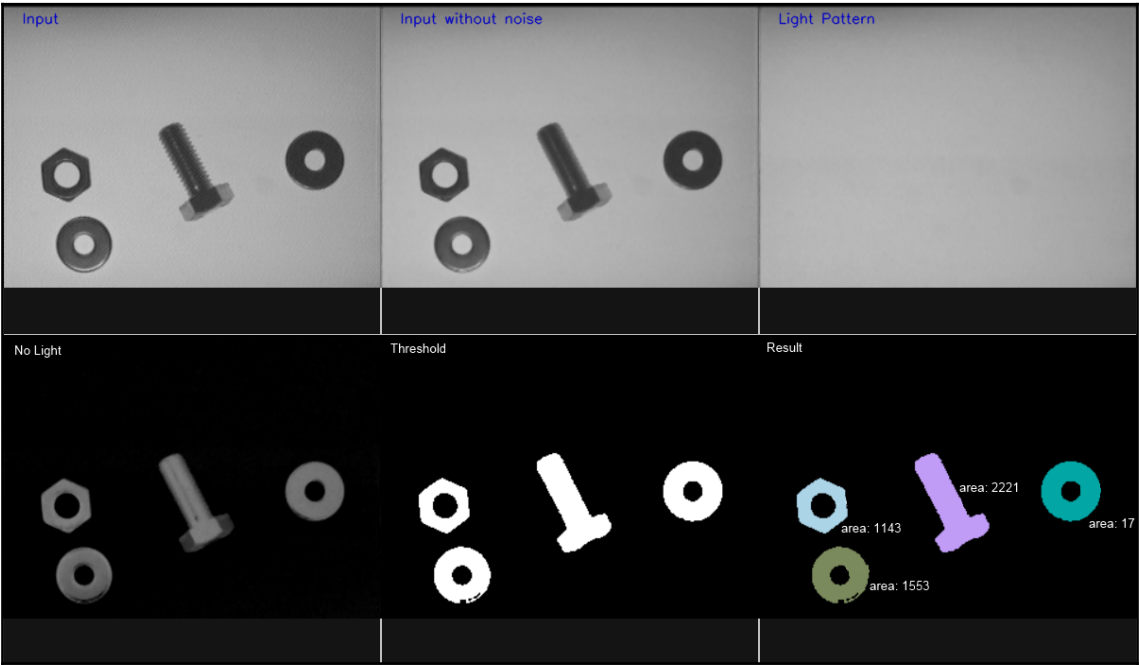
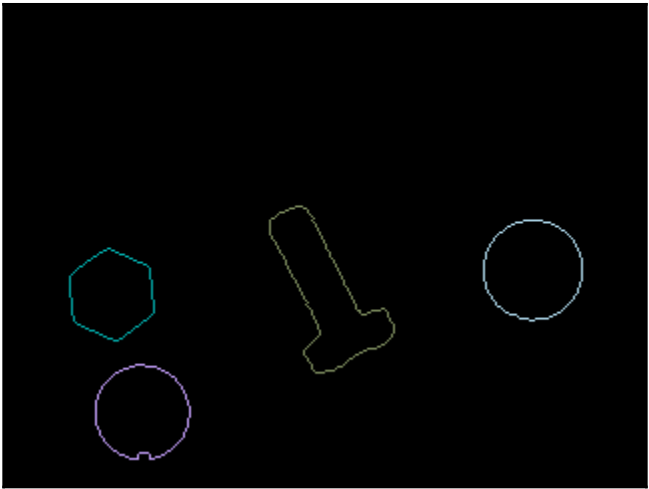


$$I(x, y) = \begin{cases} 0, & \text{if } I(x, y) < \text{threshold} \\ 1, & \text{if } I(x, y) > \text{threshold} \end{cases}$$

1	2	3
4		5
6	7	8

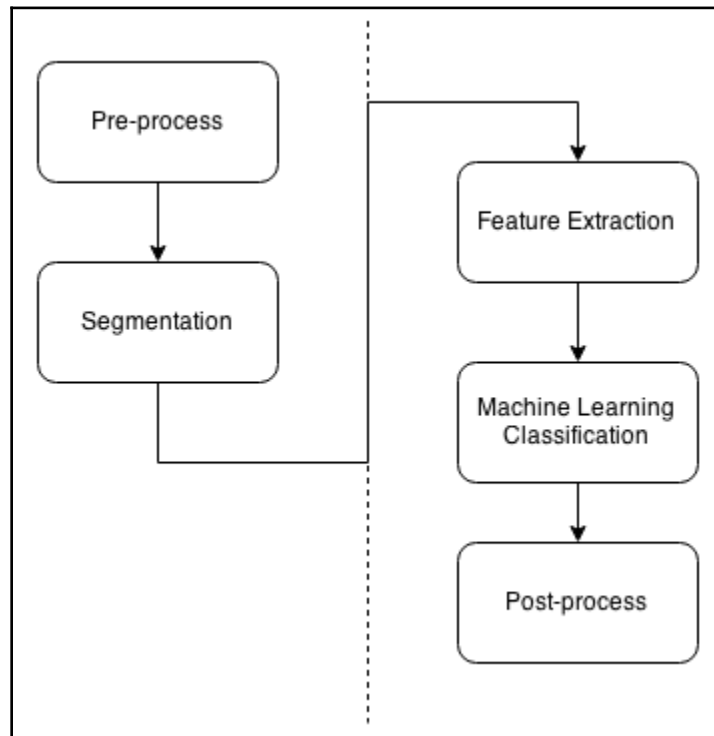
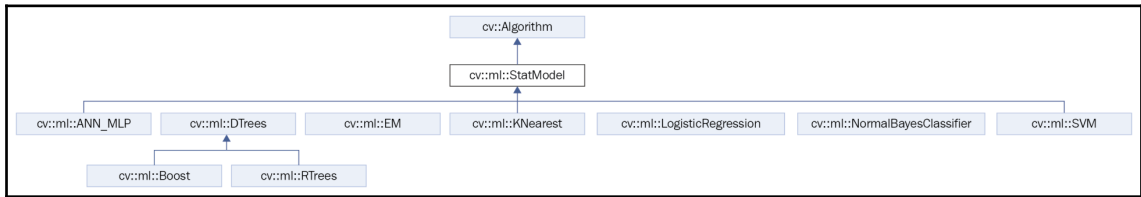


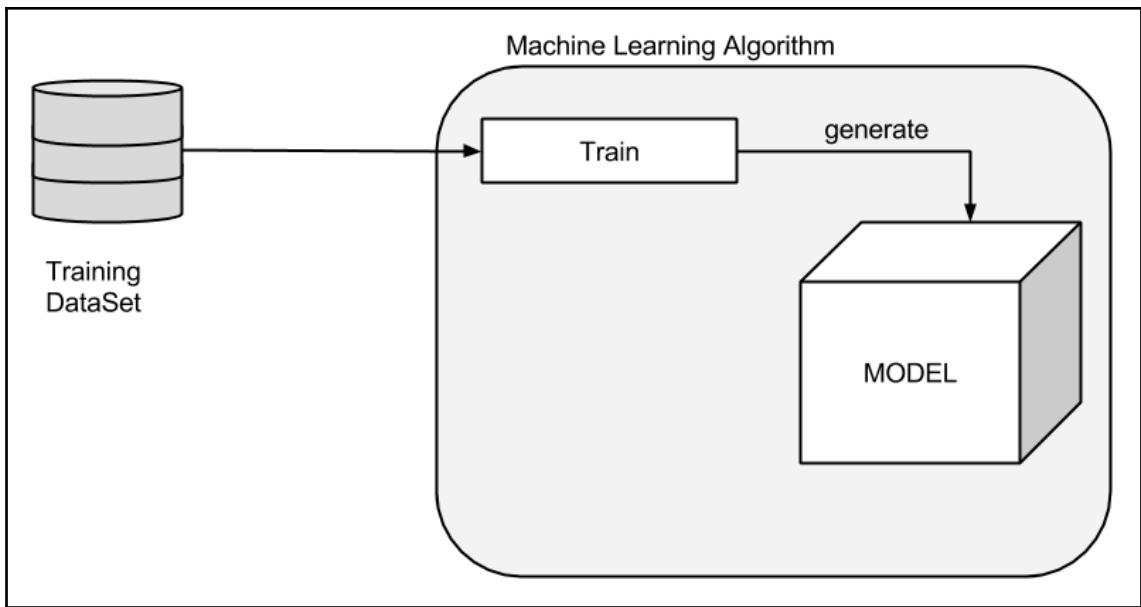


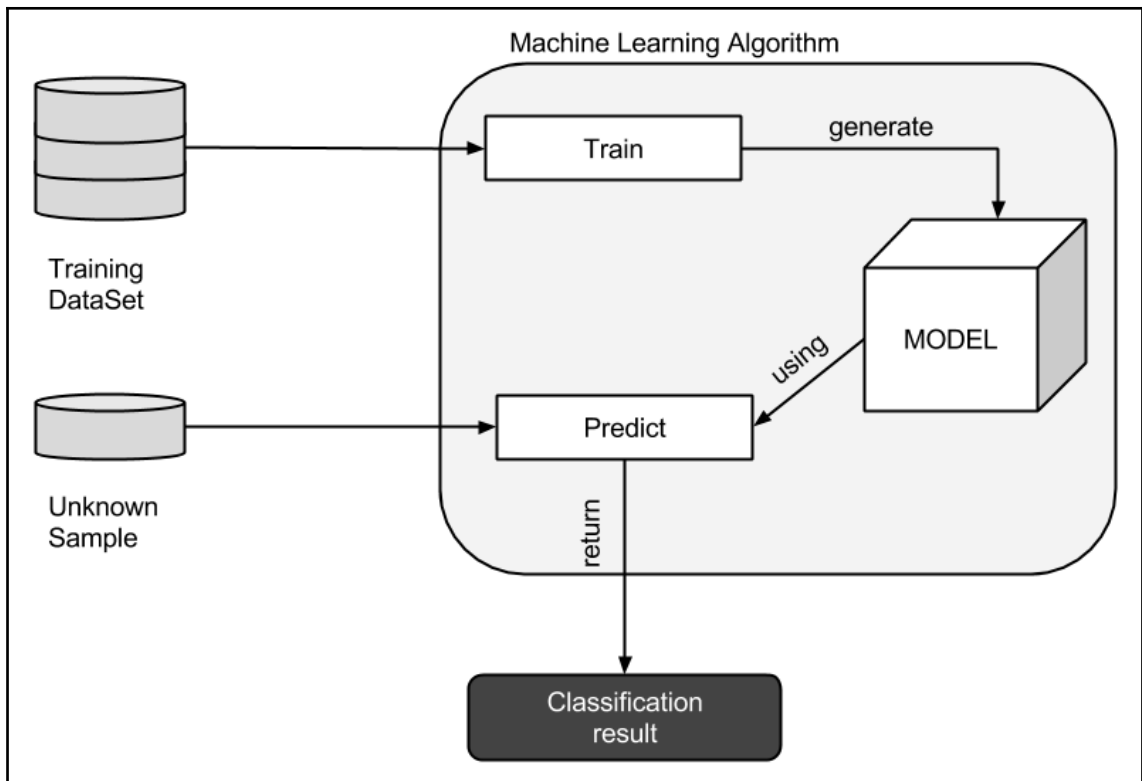


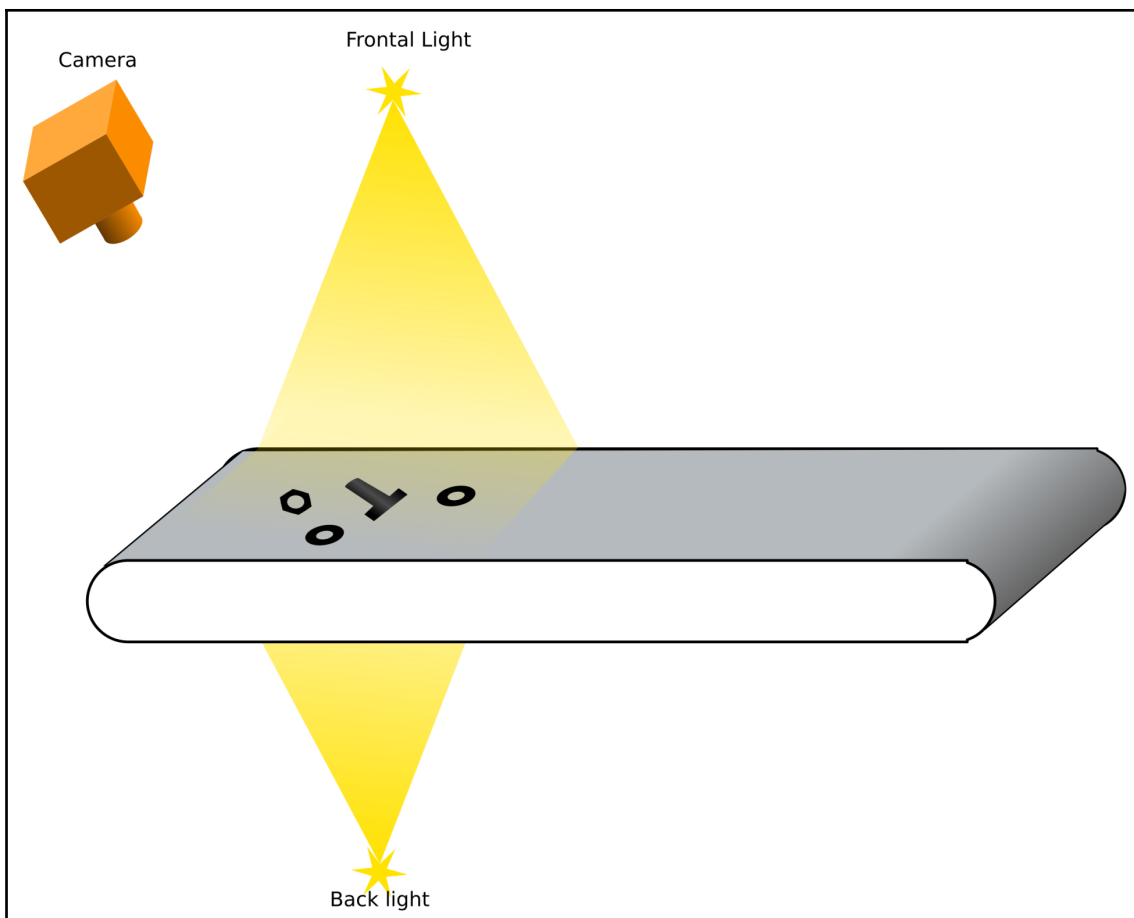


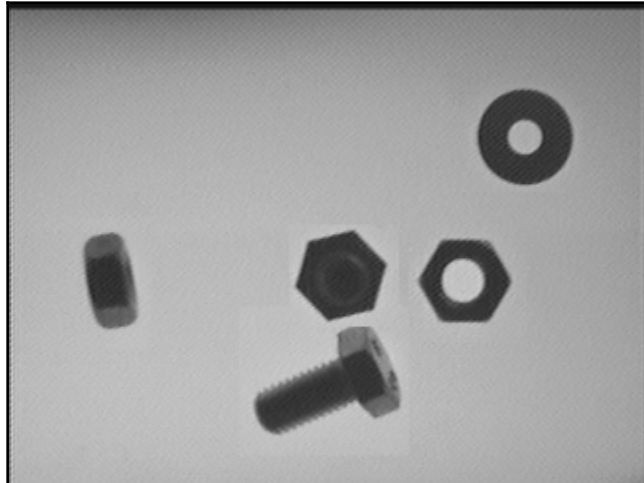
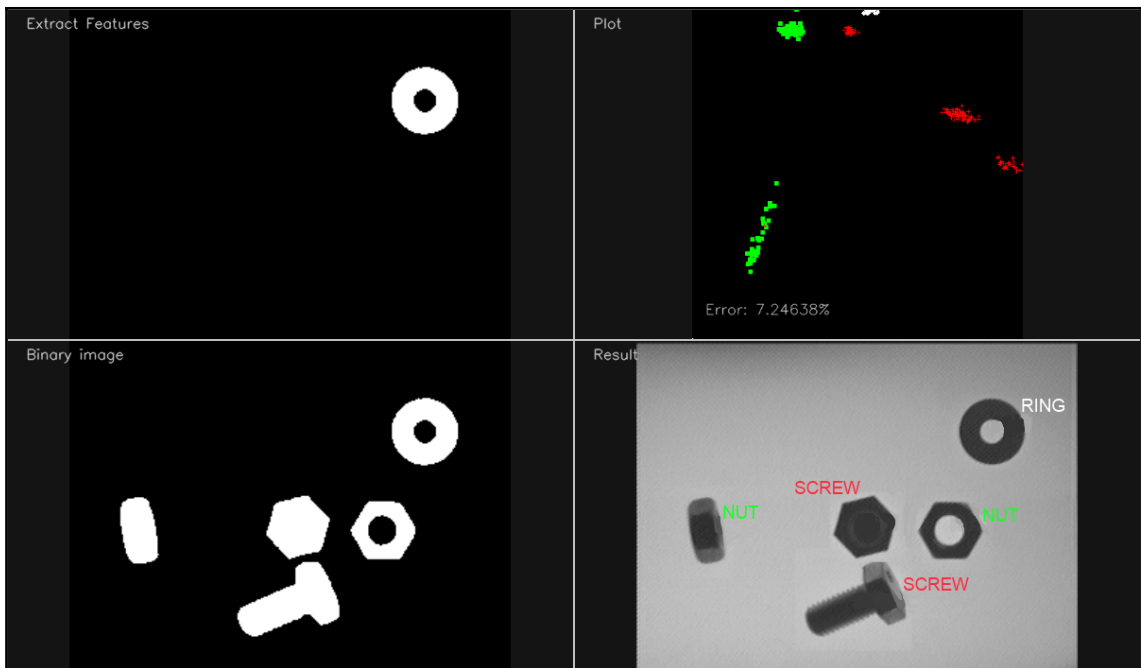
## Chapter 6: Learning Object Classification

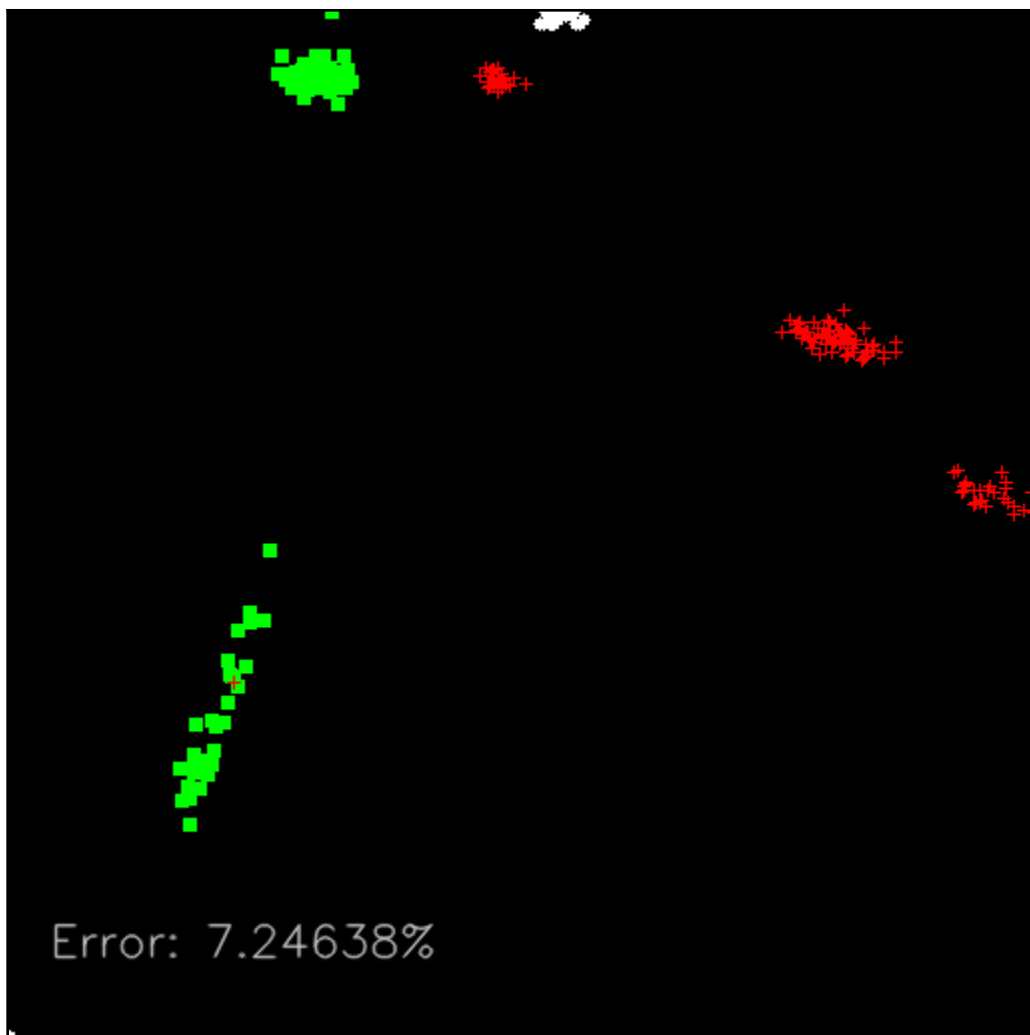


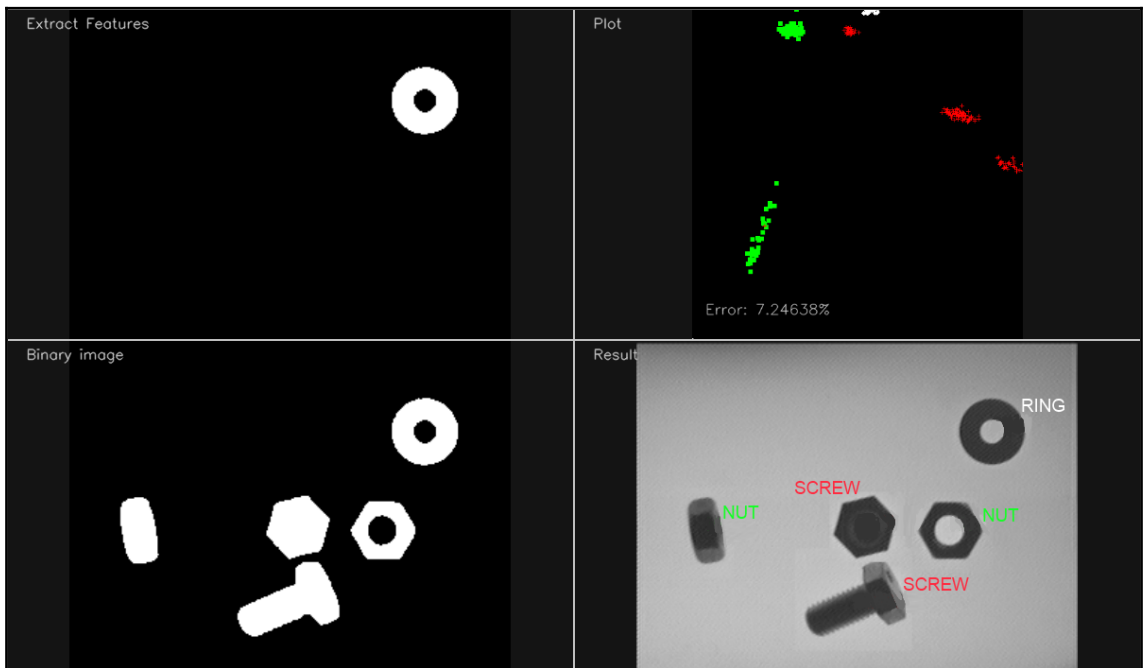
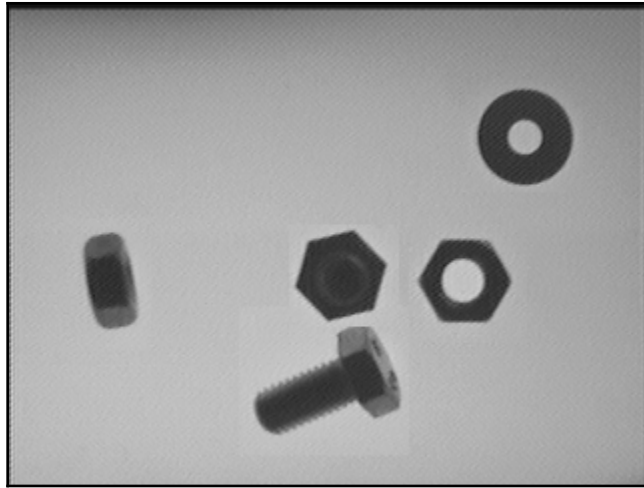




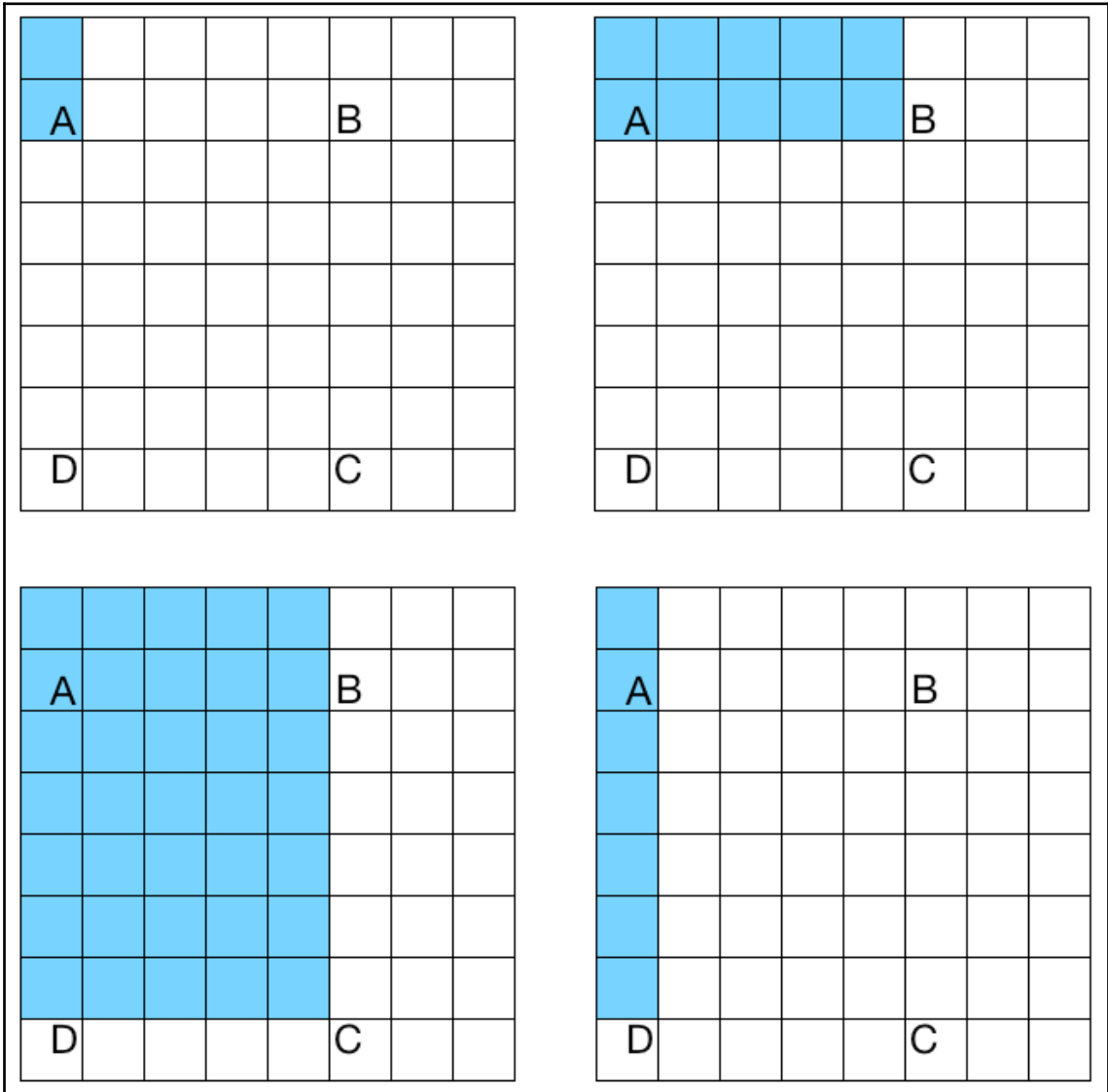






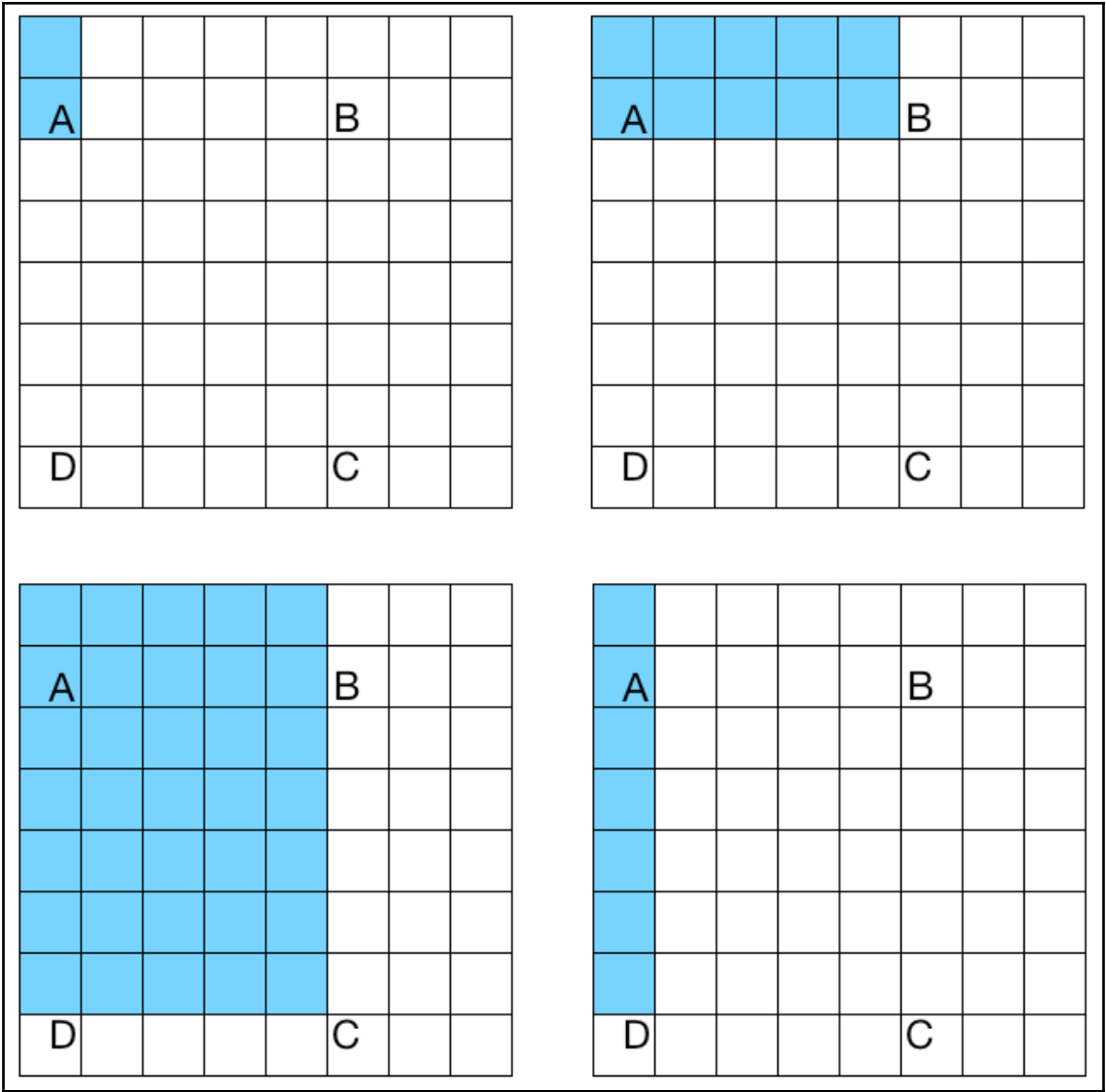


## Chapter 7: Detecting Face Parts and Overlaying Masks





A					B		
D					C		





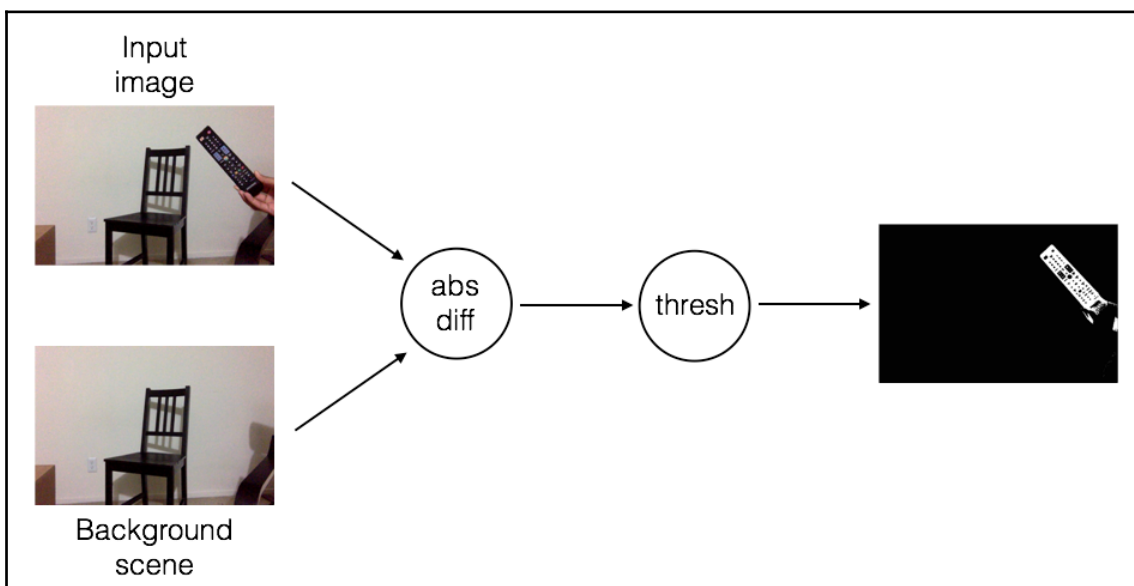


## **Chapter 8: Video Surveillance, Background Modeling, and Morphological Operations**





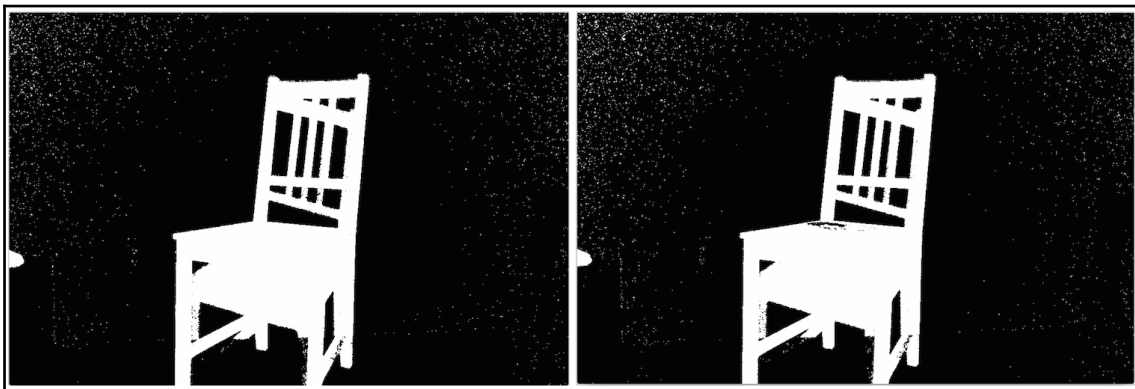


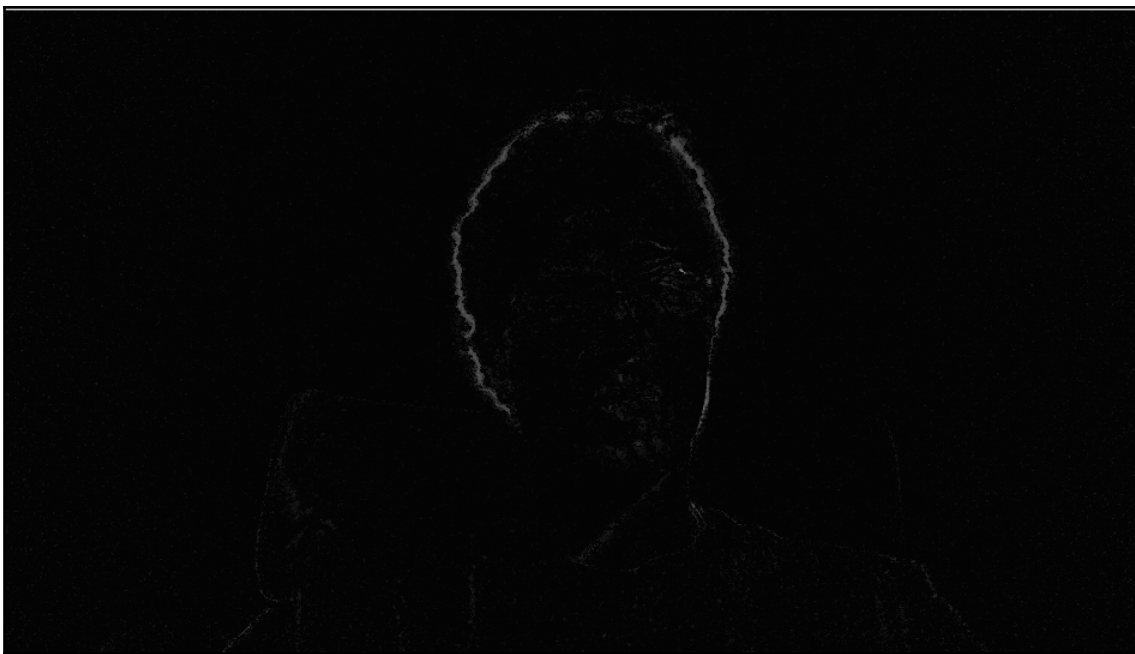


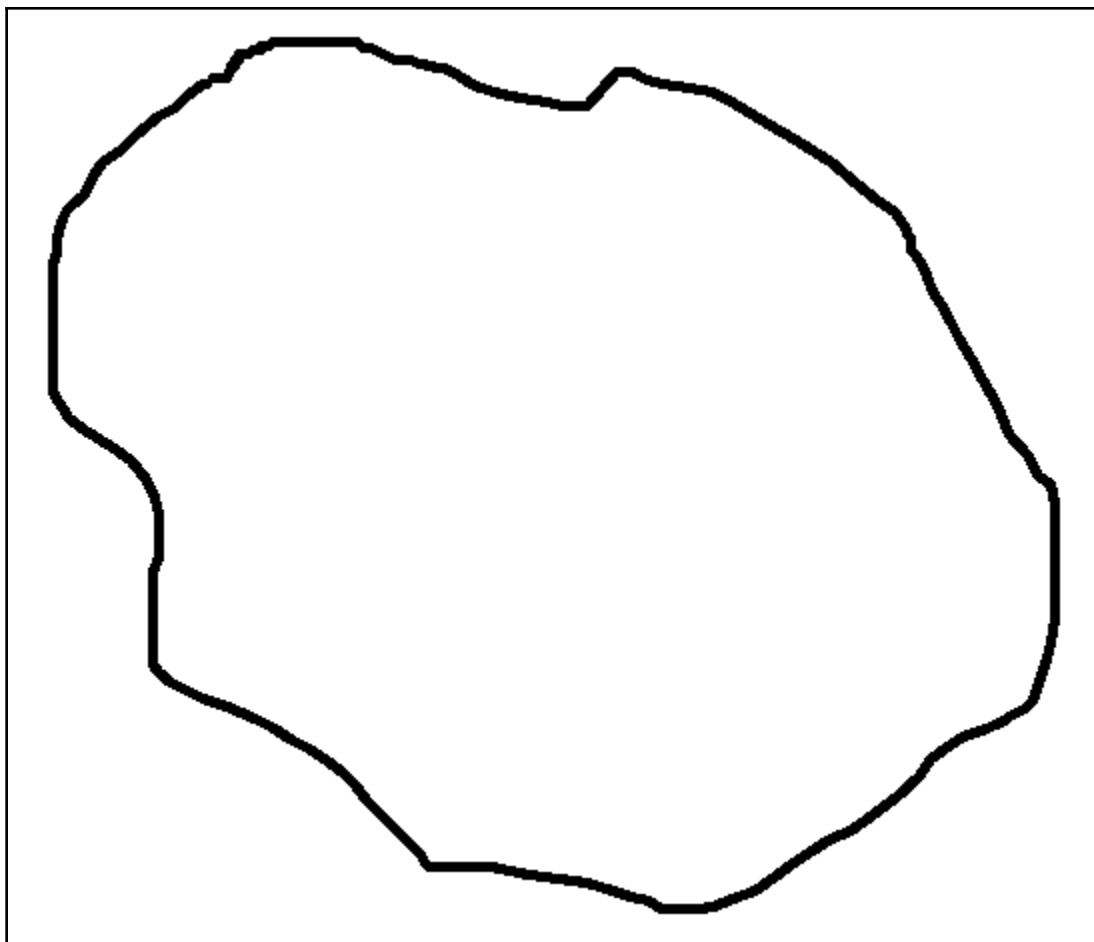


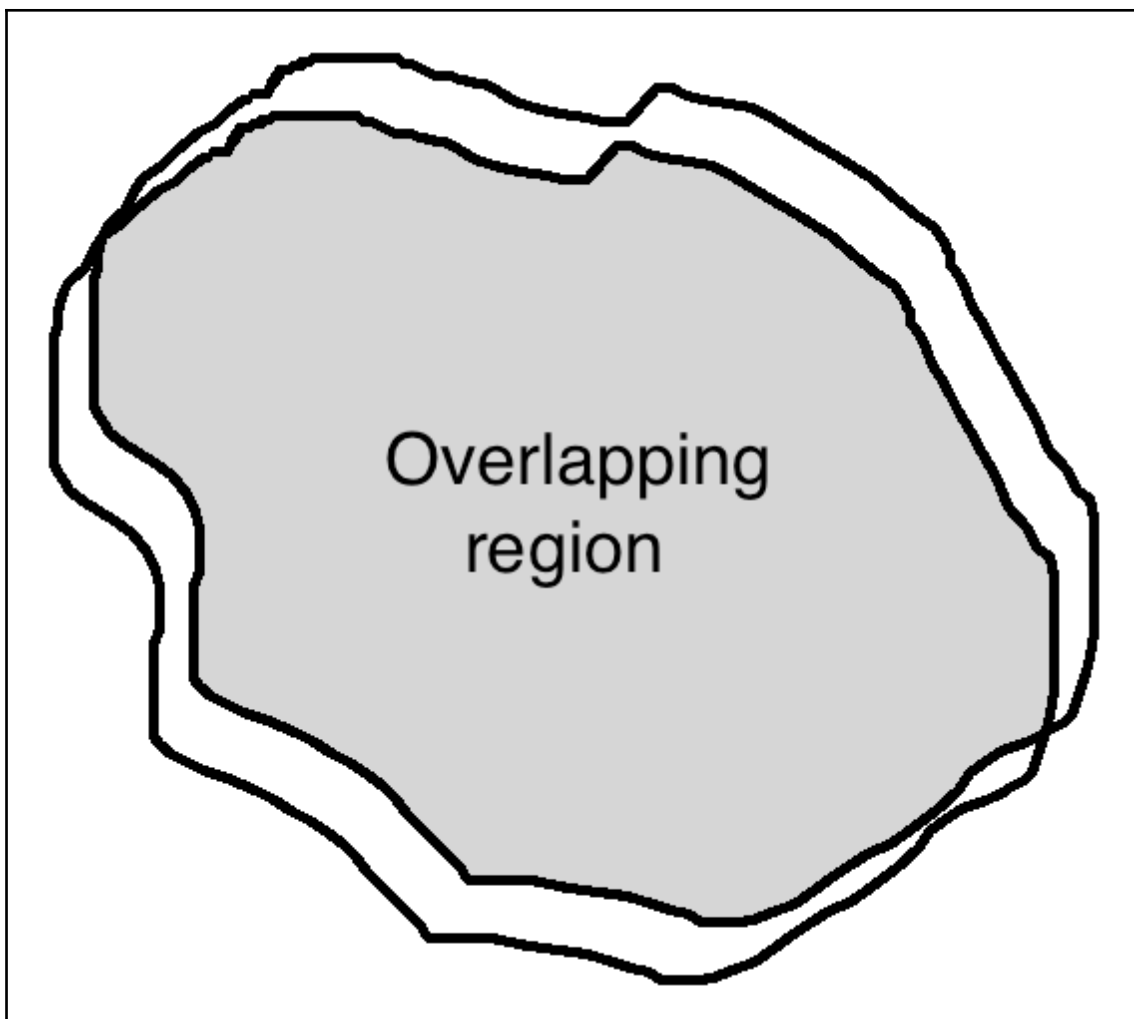






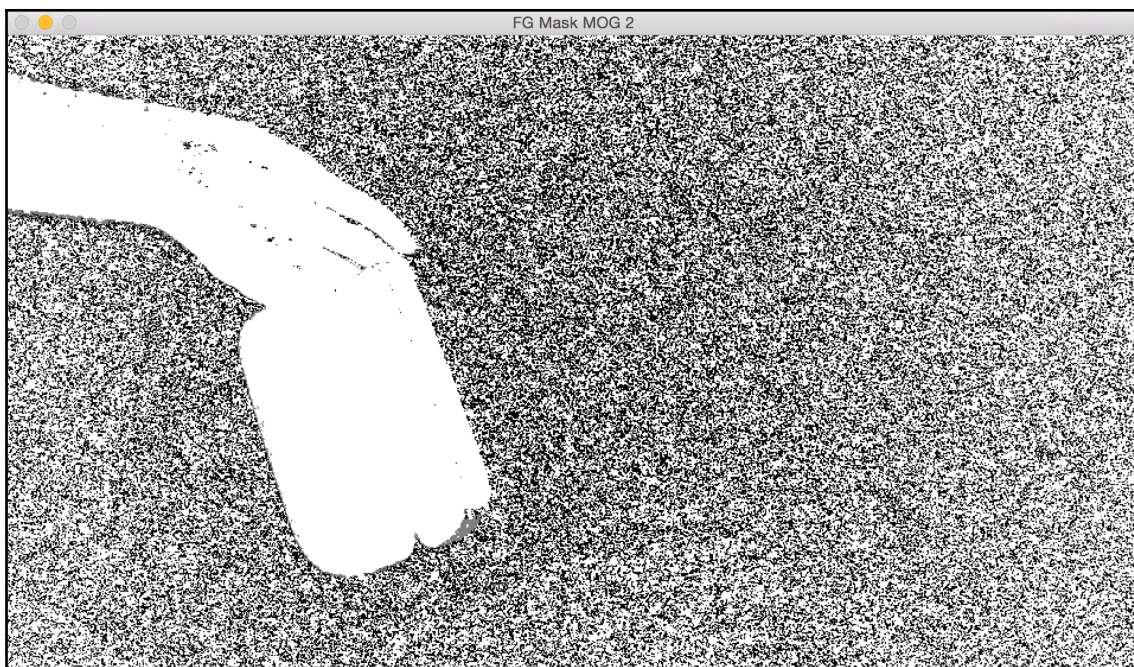


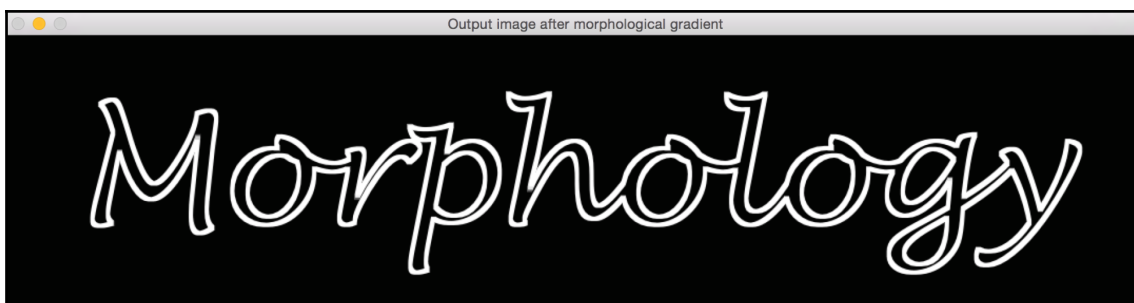
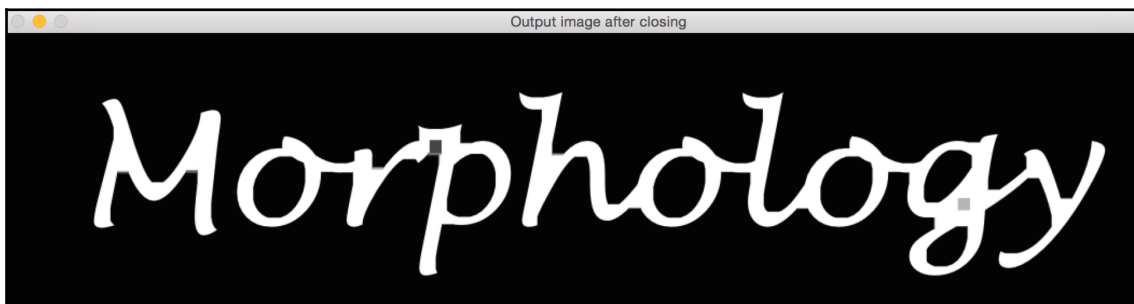
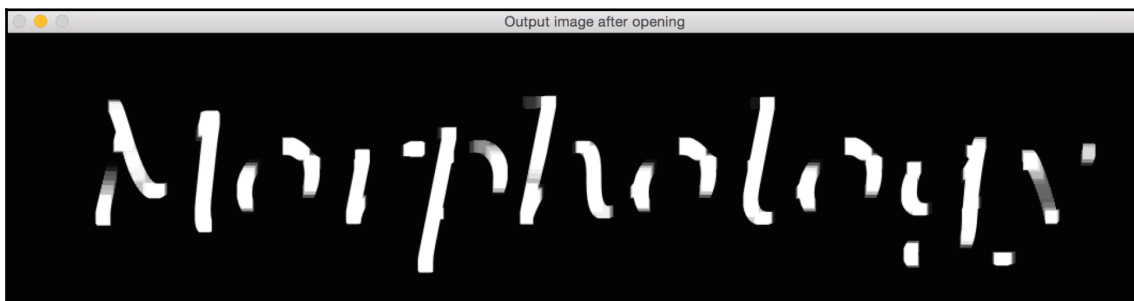
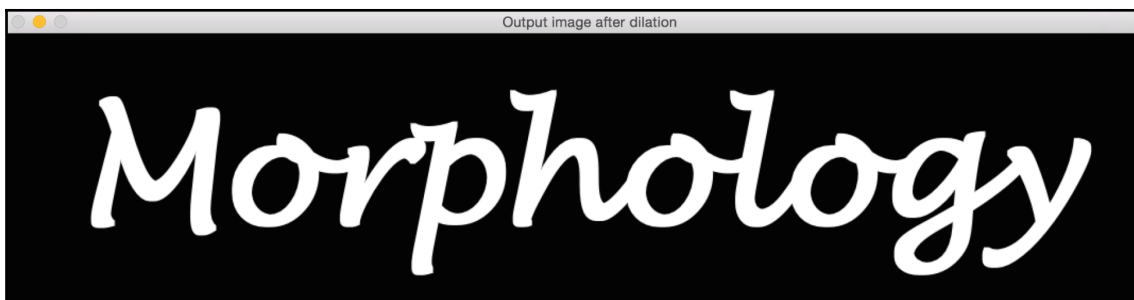




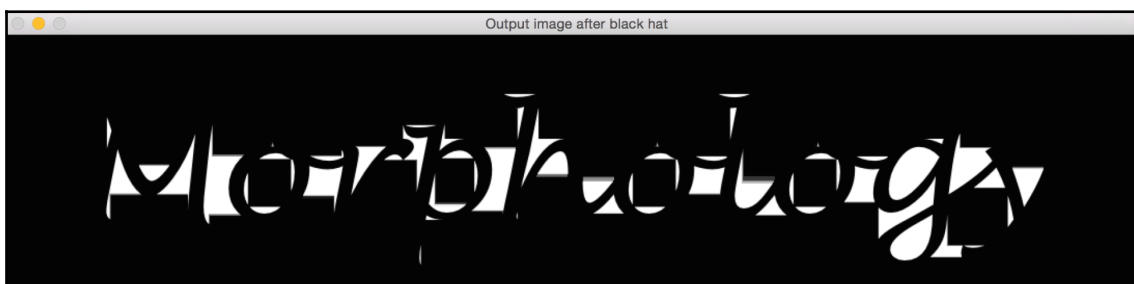






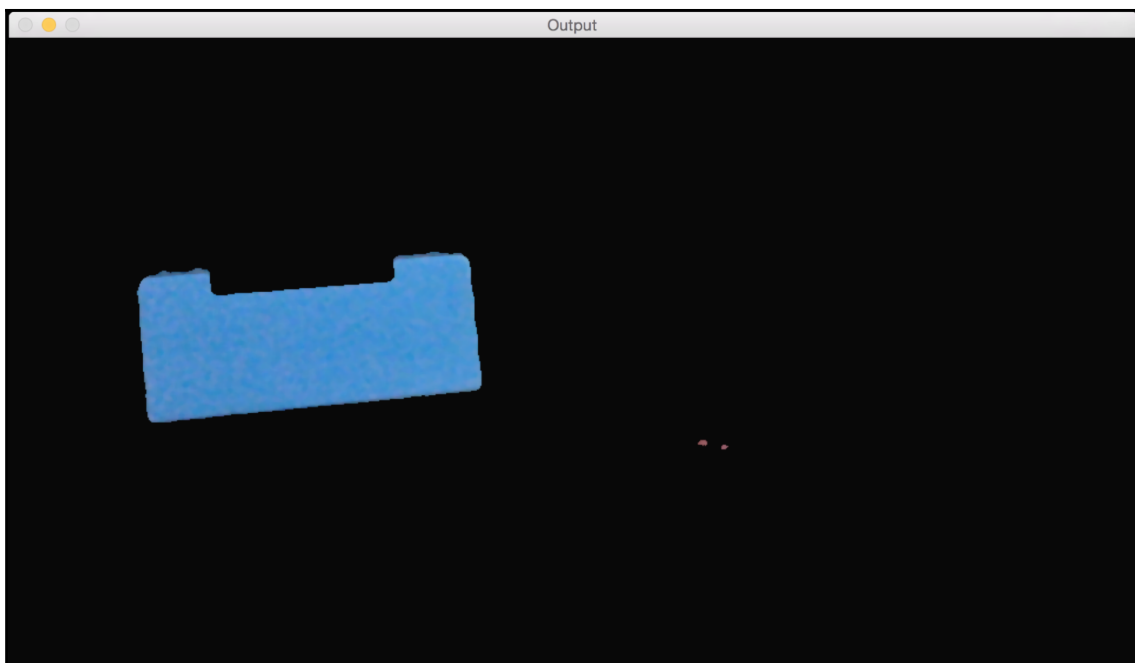


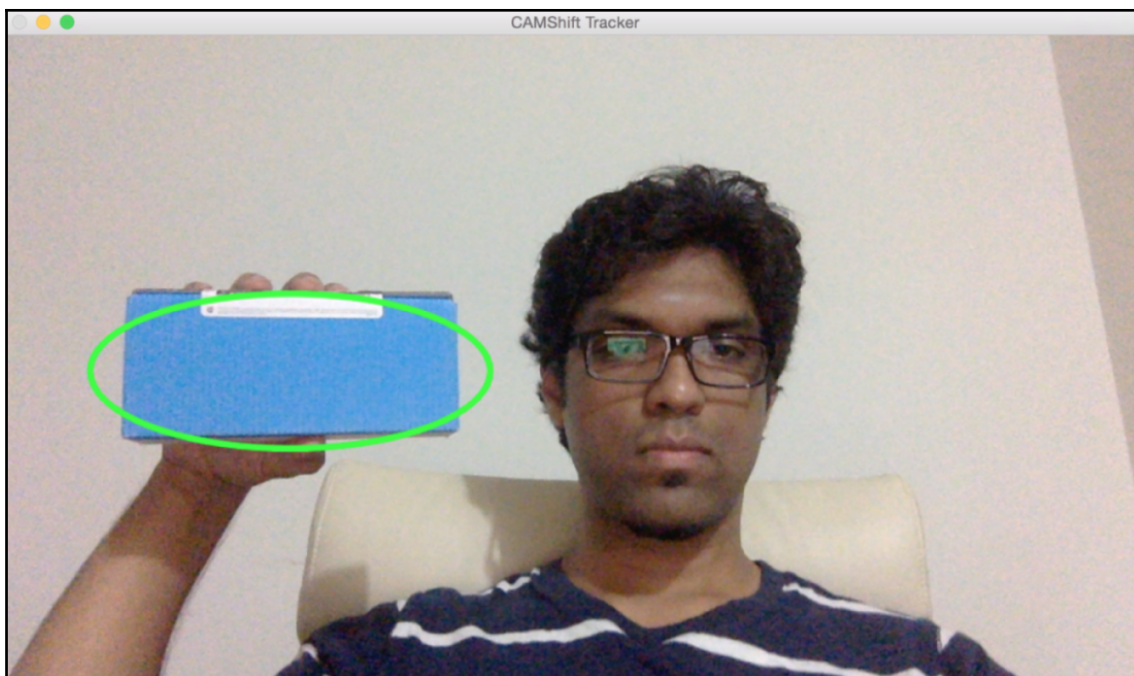




## Chapter 9: Learning Object Tracking





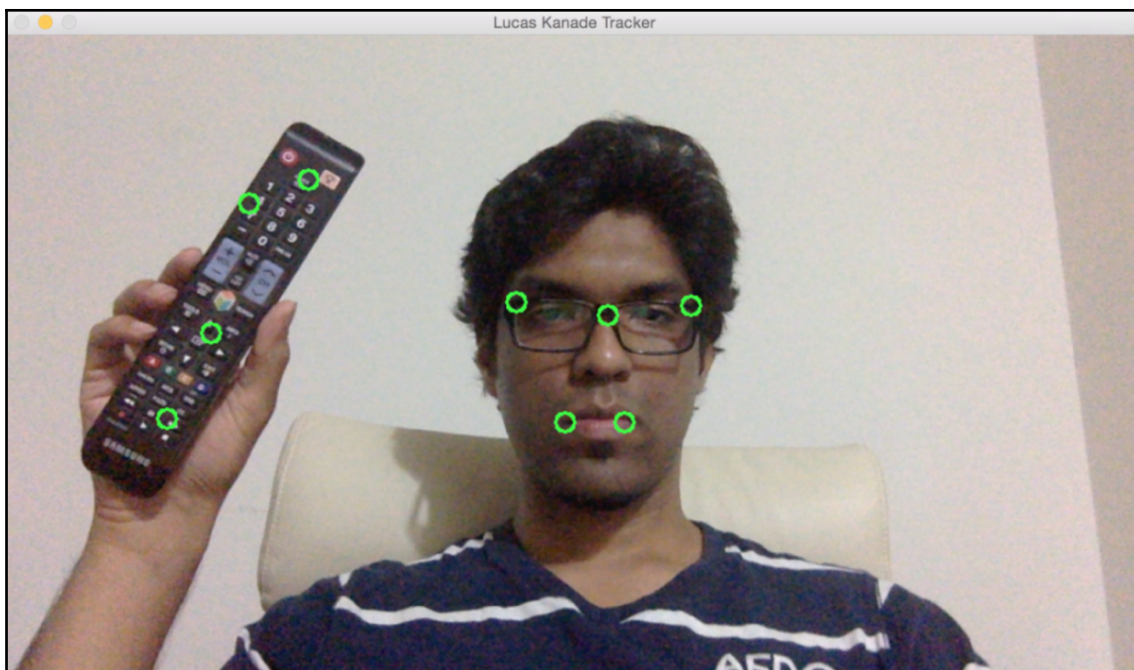


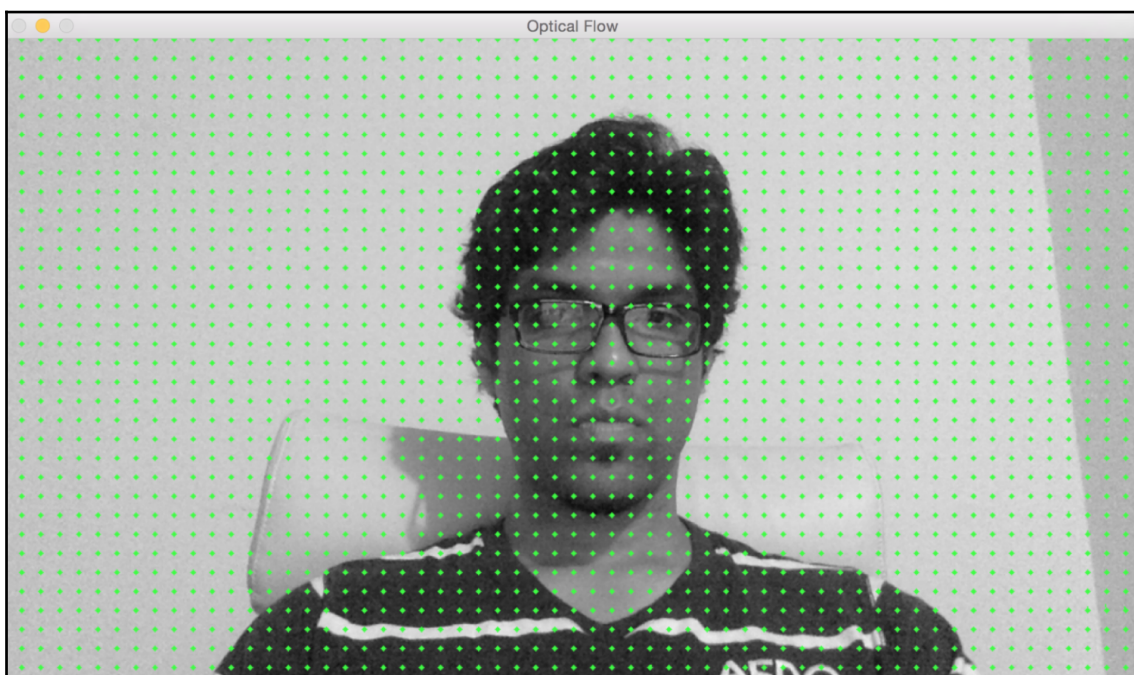
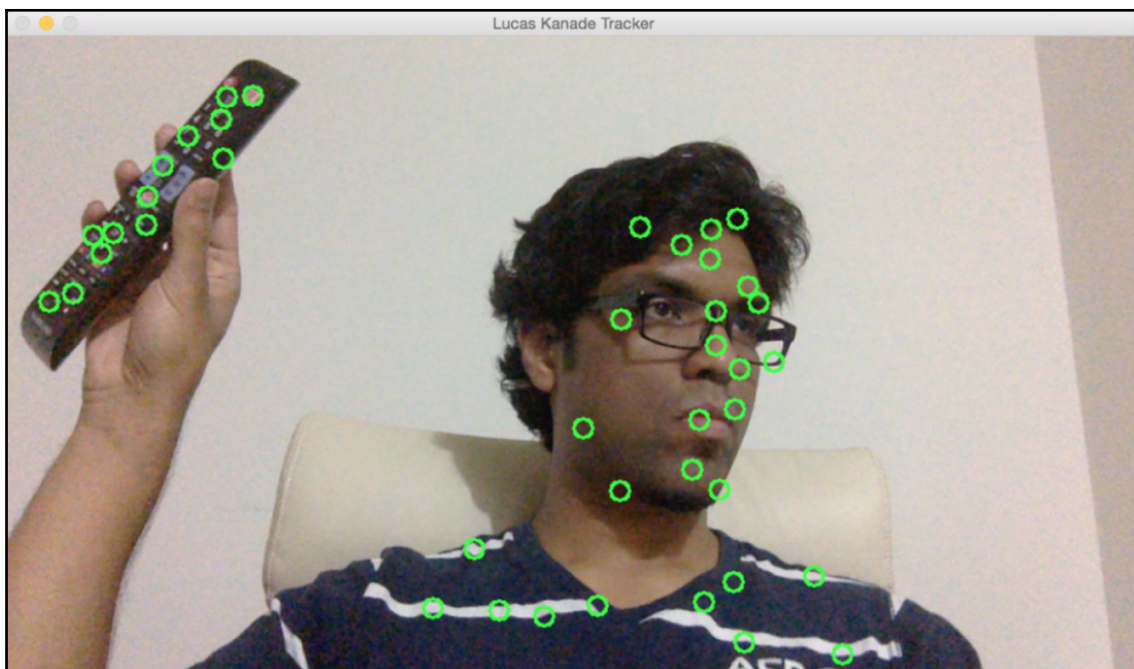




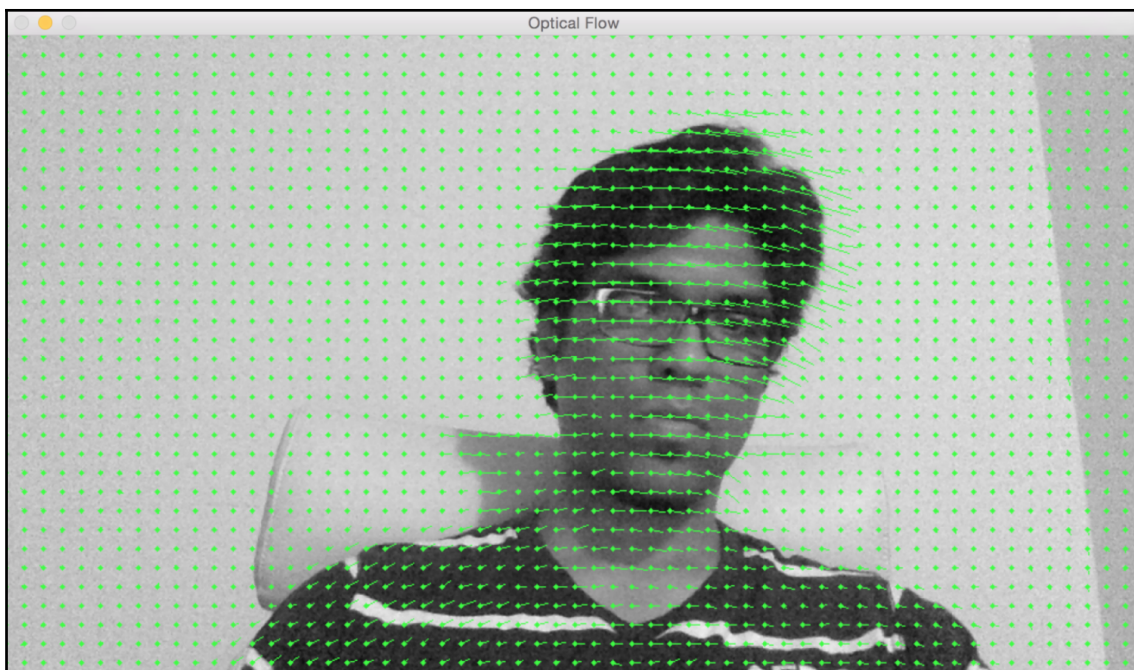








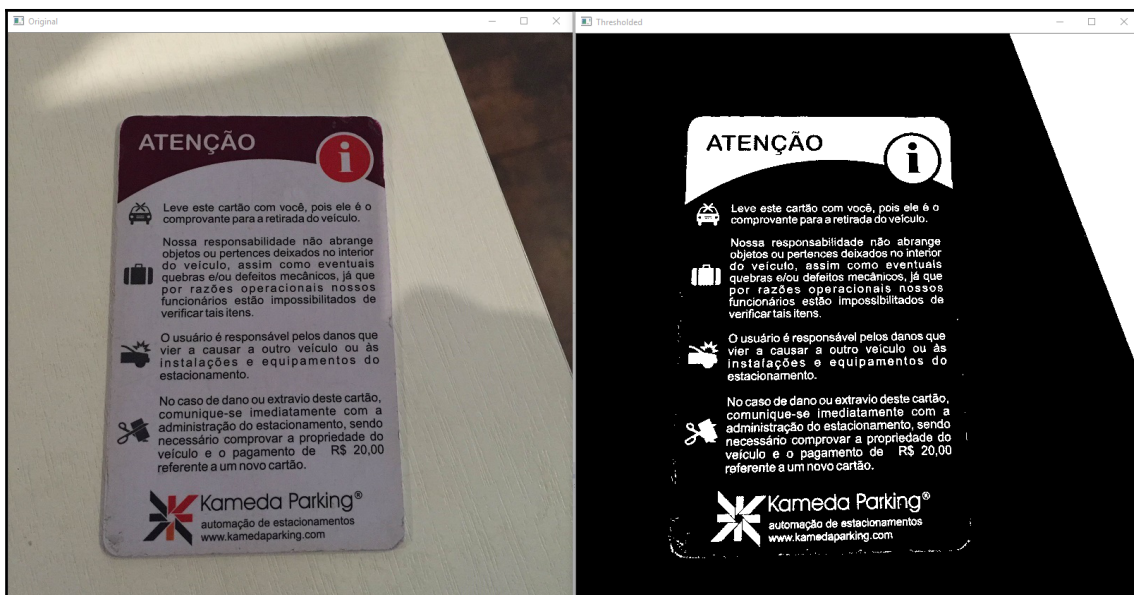


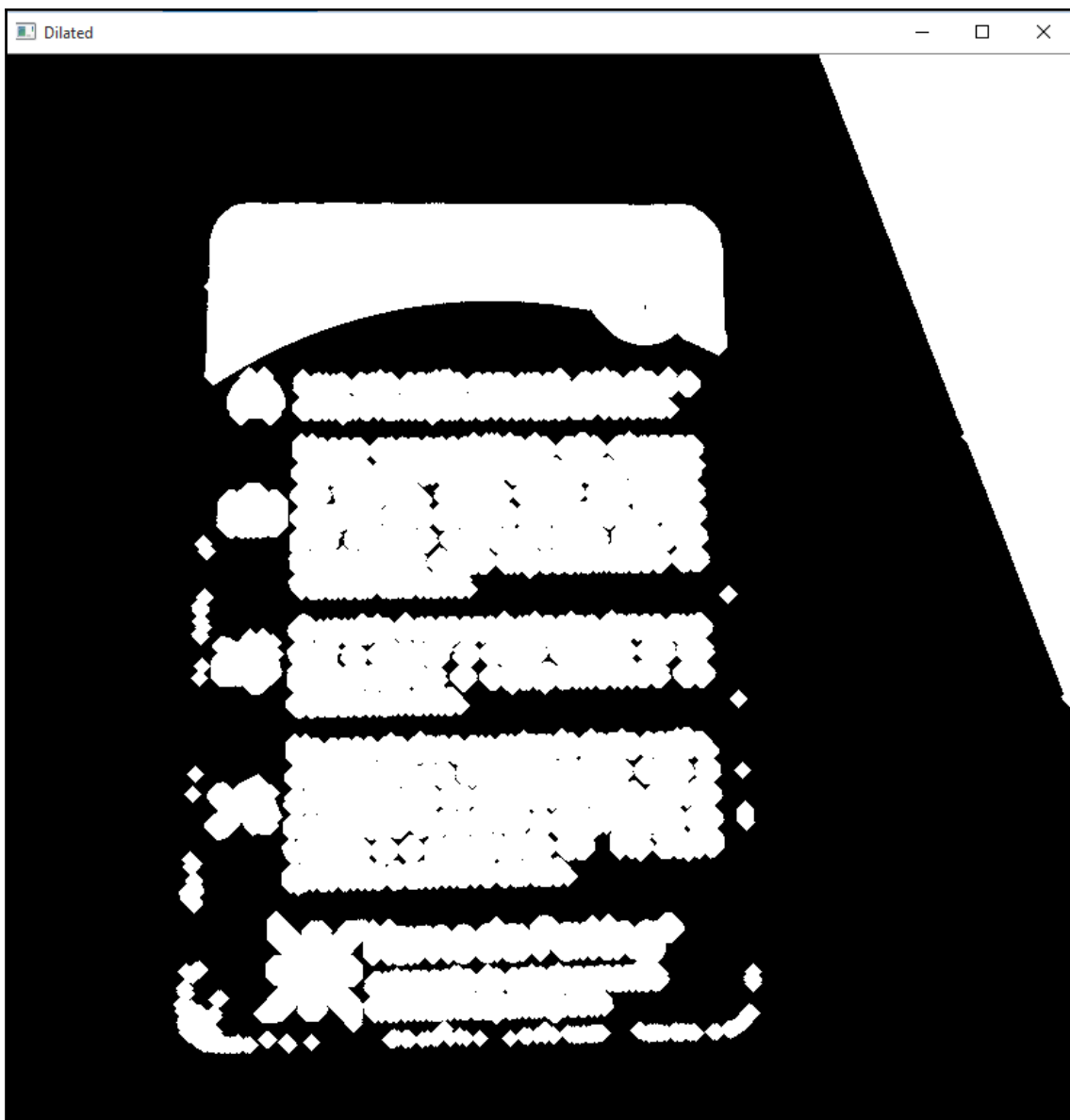


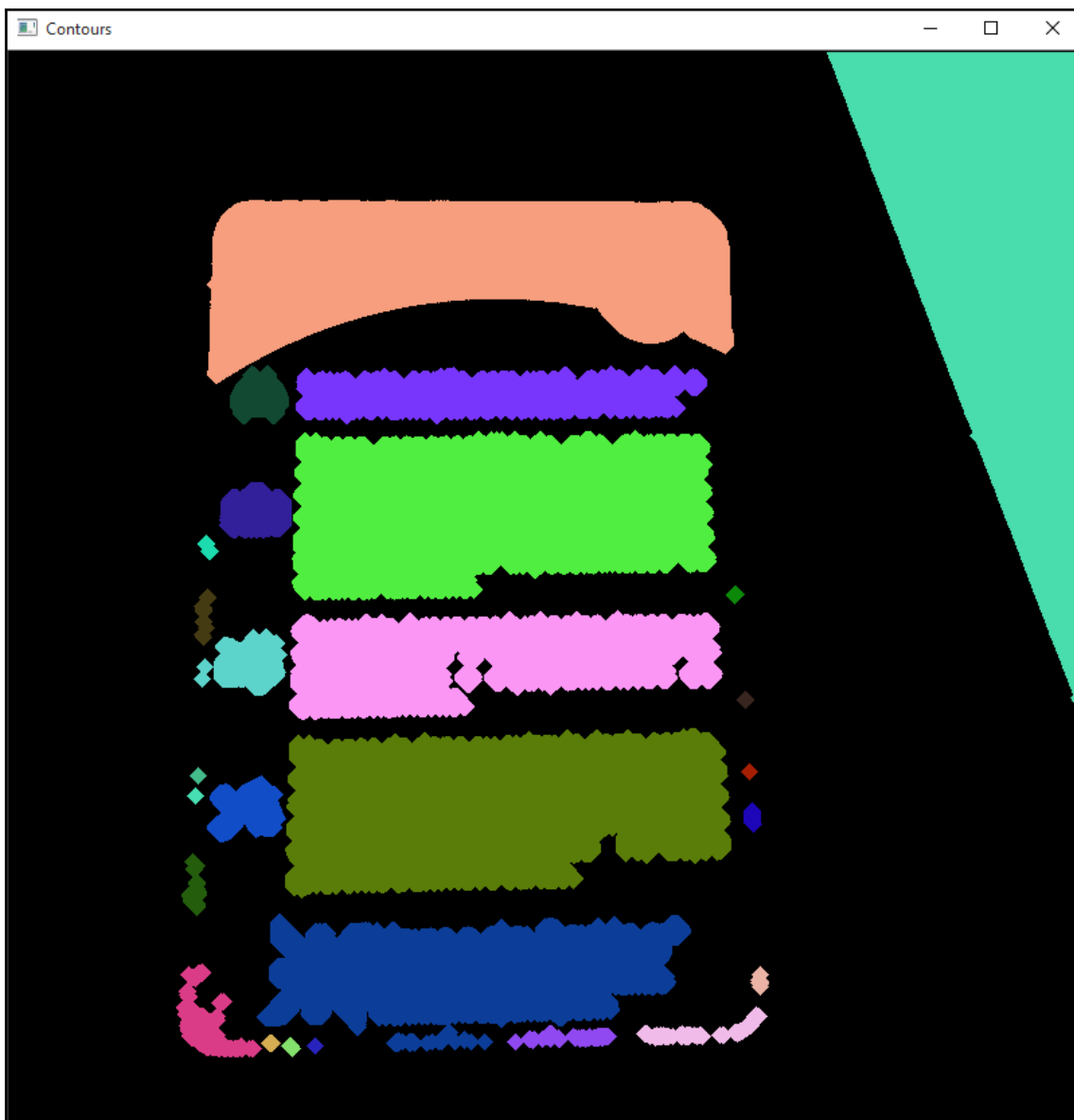
## **Chapter 10: Developing Segmentation Algorithms for Text Recognition**









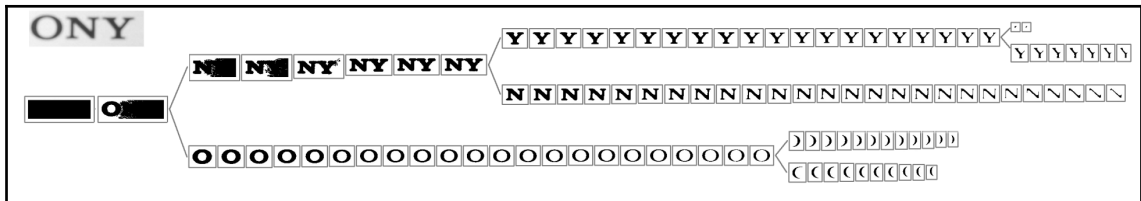








## Chapter 11: Text Recognition with Tesseract



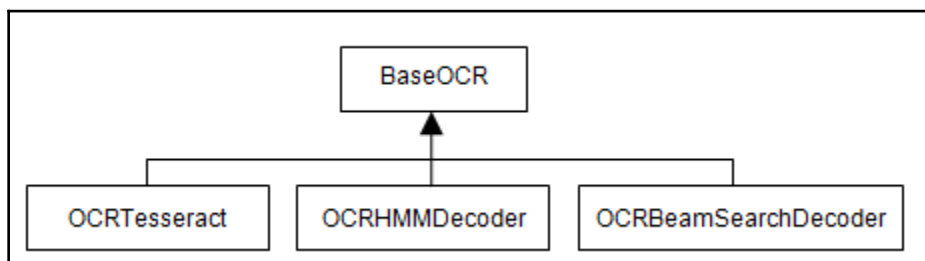


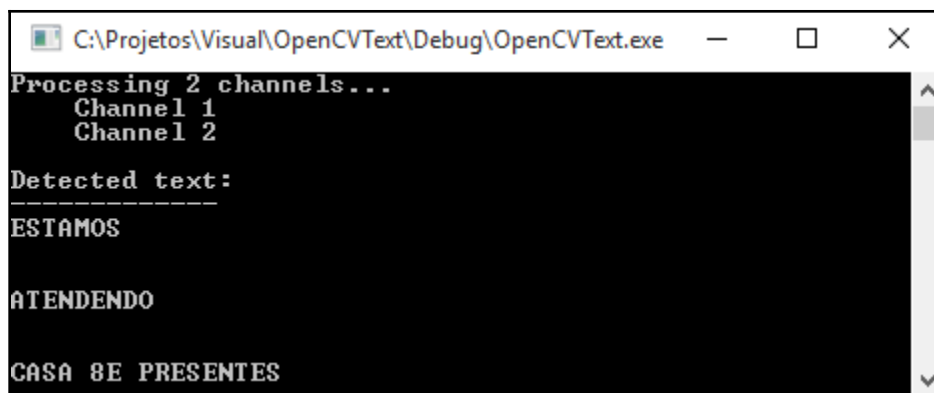




ESTAMOS  
TEN

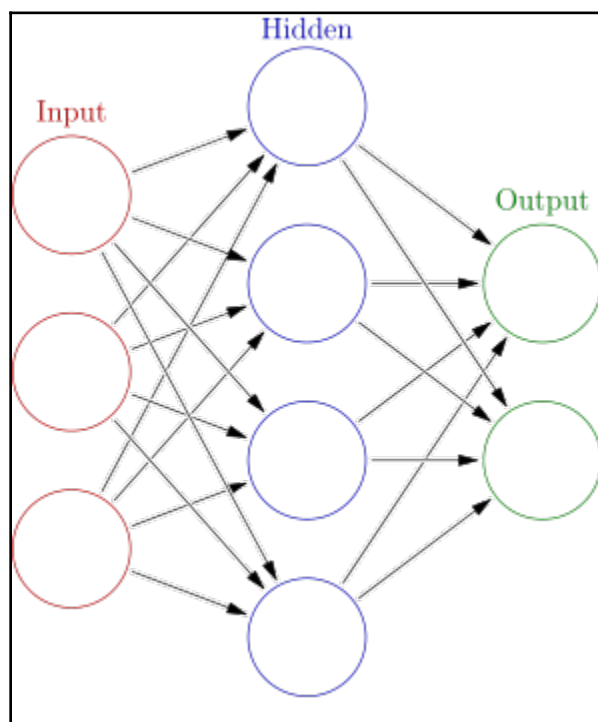
**ESTAMOS  
ATENDENDO  
CASA & PRESENTES**

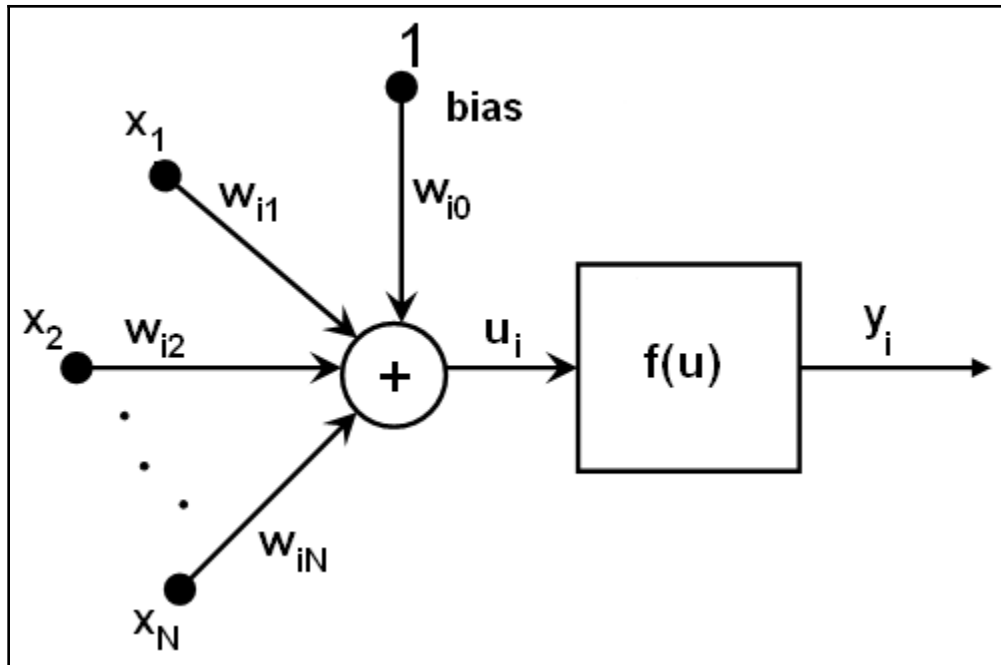




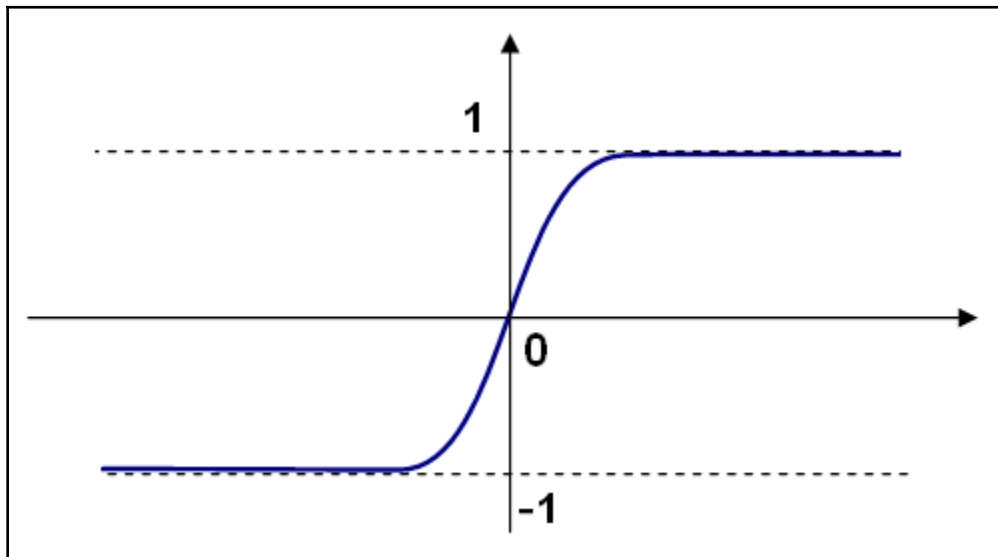
```
C:\Projetos\Visual\OpenCVText\Debug\OpenCVText.exe
Processing 2 channels...
  Channel 1
  Channel 2
Detected text:
-----
ESTAMOS
ATENDENDO
CASA 8E PRESENTES
```

## Chapter 12: Deep Learning with OpenCV

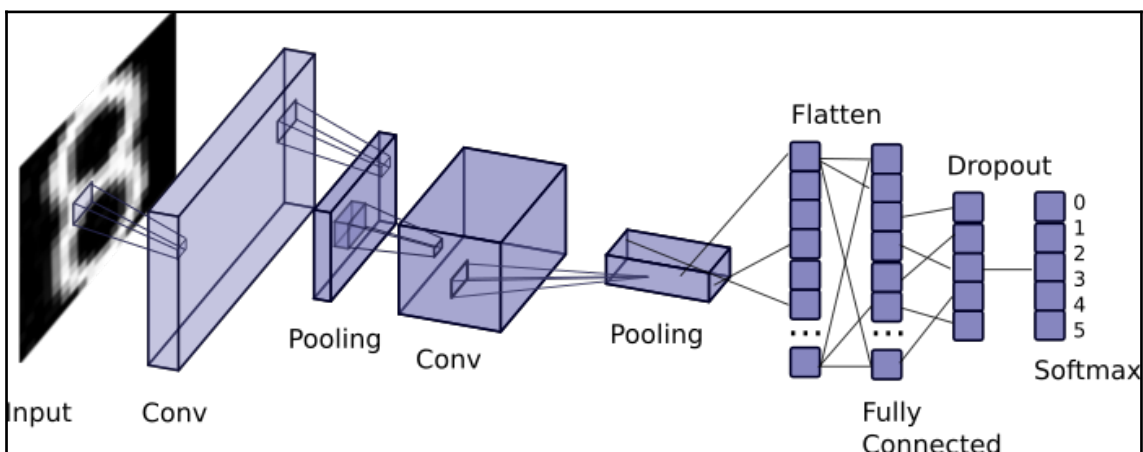


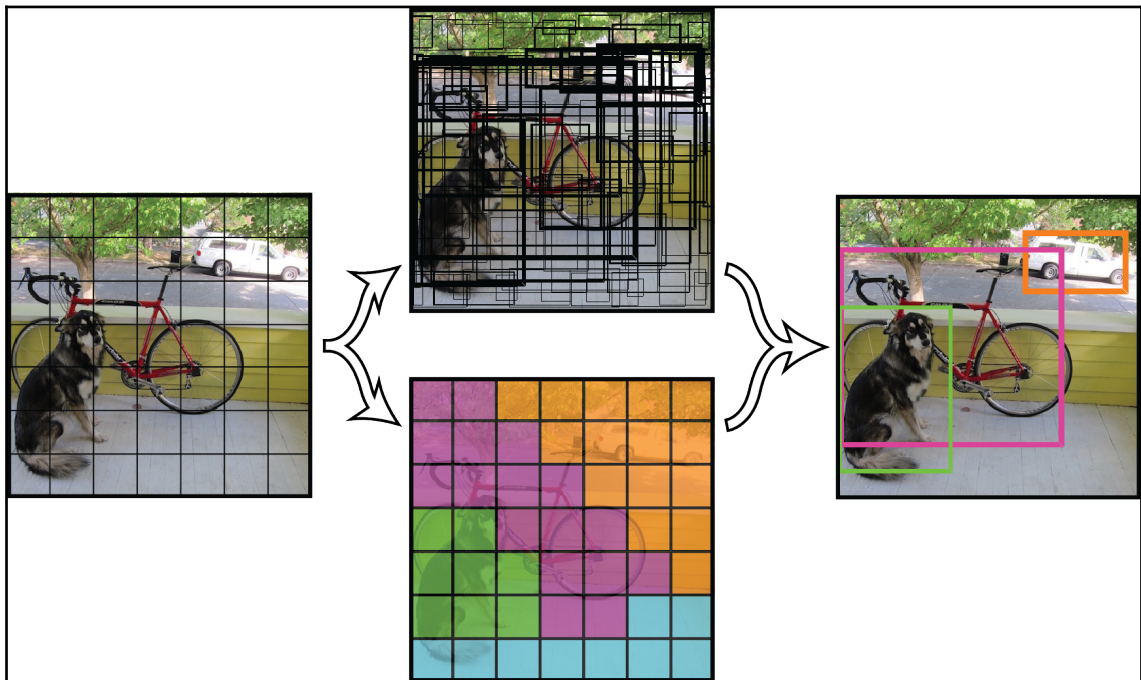
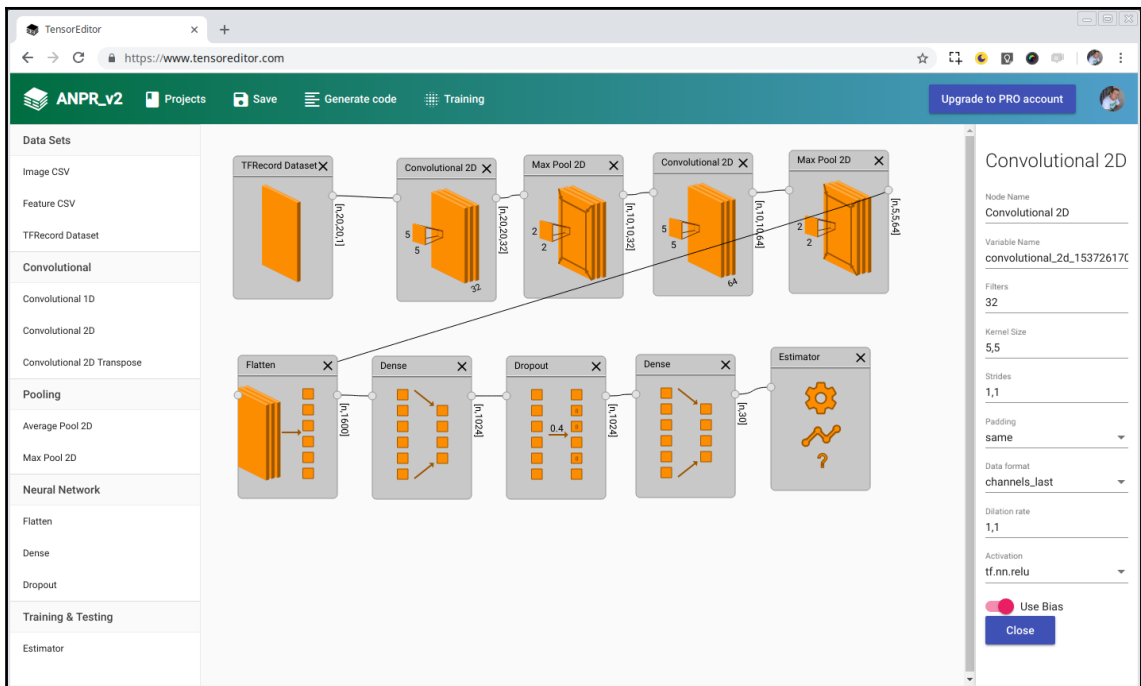


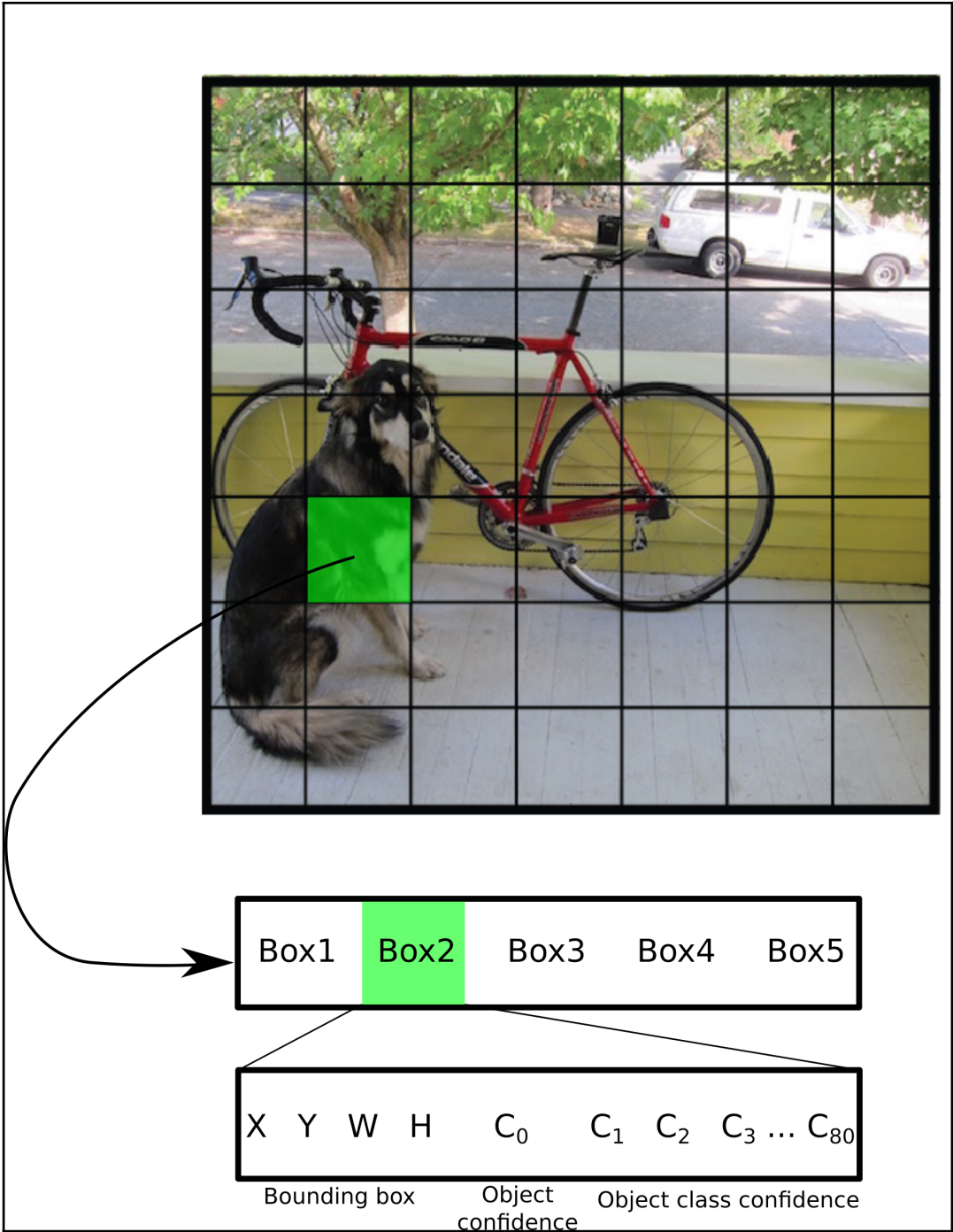
$$y_i = f(\text{bias} * W_{i0} + X_1 * W_{i1} + X_2 * W_{i2} + \dots + X_n * W_{in})$$

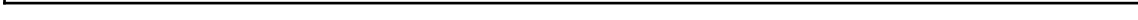


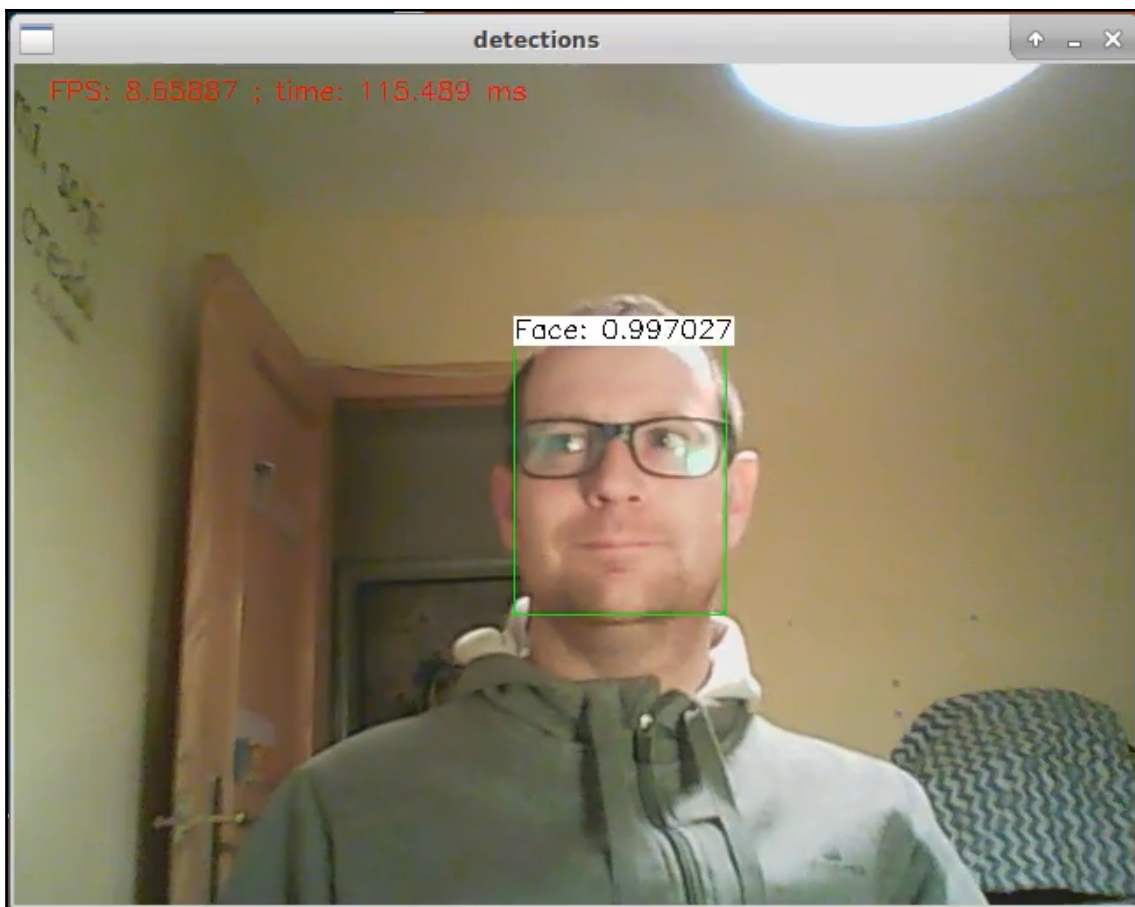












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