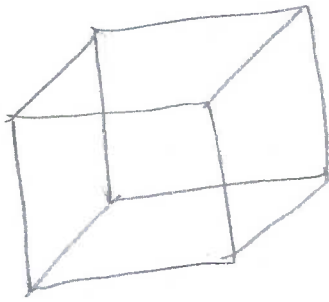
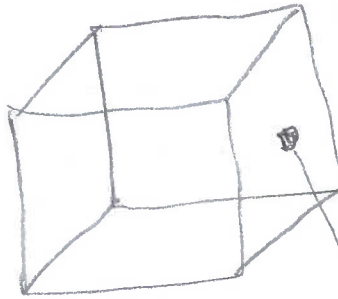


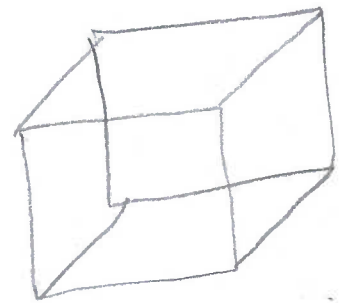
PROBABILITY MATRIX



SAGITTAL



AXIAL



CORONAL

D Get the Probability Vector for each Voxel  $\begin{bmatrix} 0.2 \\ 0.8 \end{bmatrix}$

108 140 140 92

140 140 92 108

UNDER-SEGMENT

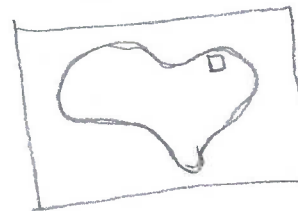
SAGITTAL



AXIAL

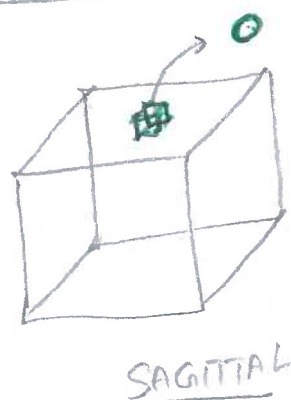
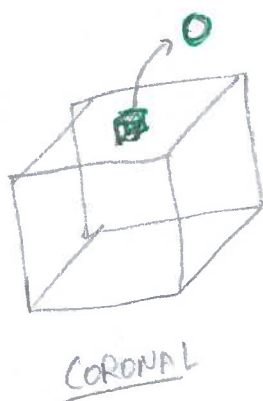
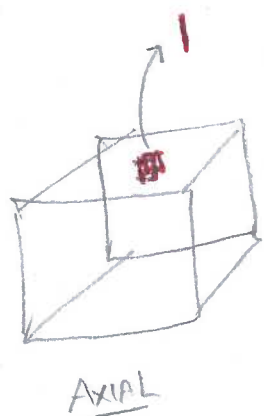
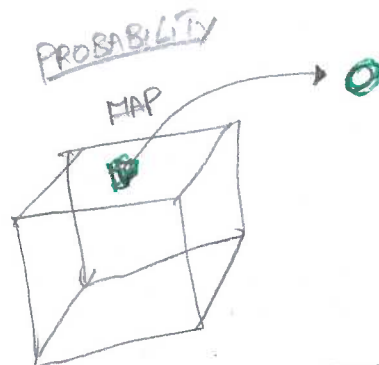


CORONAL



$$\begin{aligned}
 & 0.2 \begin{bmatrix} 0.9 \\ 0.1 \end{bmatrix} + 0.4 \begin{bmatrix} 0.1 \\ 0.9 \end{bmatrix} + 0.4 \begin{bmatrix} 0.1 \\ 0.9 \end{bmatrix} \\
 &= \begin{bmatrix} 0.18 \\ 0.02 \end{bmatrix} + \begin{bmatrix} 0.04 \\ 0.36 \end{bmatrix} + \begin{bmatrix} 0.04 \\ 0.36 \end{bmatrix} = \begin{bmatrix} 0.26 \\ 0.74 \end{bmatrix} \\
 &= \text{Arg Max} \begin{bmatrix} 0.26 \\ 0.74 \end{bmatrix} = 1 //
 \end{aligned}$$

OVER-SEGMENT



$$L_{\text{Pred}}(x) = \text{ArgMax} (\lambda_1 P_A(x) + \lambda_2 P_C(x) + \lambda_3 P_S(x))$$

$$= \text{ArgMax} \left( 0.4 \begin{bmatrix} 0.1 \\ 0.9 \end{bmatrix} + 0.4 \begin{bmatrix} 0.9 \\ 0.1 \end{bmatrix} + 0.2 \begin{bmatrix} 0.9 \\ 0.1 \end{bmatrix} \right)$$

$$= \text{ArgMax} \left( \begin{bmatrix} 0.04 \\ 0.36 \end{bmatrix} + \begin{bmatrix} 0.36 \\ 0.04 \end{bmatrix} + \begin{bmatrix} 0.18 \\ 0.02 \end{bmatrix} \right)$$

$$\text{ArgMax} \left( \begin{bmatrix} 0.58 \\ 0.42 \end{bmatrix} \right)$$

$$= 0$$

$$\frac{61}{244}$$