

对于  $\forall x, y \in C$  与  $\forall \lambda \in [0, 1]$ , 有  $\lambda x + (1 - \lambda)y \in C$

由于全平面是一个凸集, 故任何平面点集都可用全平面盖住, 即能被凸集盖住, 从而盖住该凸集的所有凸集的交集存在, 即凸包存在.

而如果某个凸集  $A$  有两个凸包  $M1$  与  $M2$ , 则  $M1 \cap M2$  也能盖住凸集  $A$ , 且  $M1 \cap M2 \subset M1$ , 但  $M1$  是  $A$  的凸包, 故  $M1 \subset M1 \cap M2$ , 故  $M1 \cap M2 = M1$ . 同理  $M1 \cap M2 = M2$ . 即  $M1 = M2$

$$\begin{vmatrix} x_1 & y_1 & 1 \\ x_2 & y_2 & 1 \\ x_3 & y_3 & 1 \end{vmatrix} = x_1 y_2 + x_3 y_1 + x_2 y_3 - x_3 y_2 - x_2 y_1 - x_1 y_3$$

$$\mathcal{O}(n \log n) \text{ } mx$$

It is worth noting that there is no simple linear relation between  $d$  and  $r$  with performances measured by mIoU, though  $d = 8r$  is a satisfactory choice. Experiments show that even  $r = 8$  performs well, revealing that it can be very cheap for modeling the global context