

②

$$C_1 \rightarrow (x_1, y_1) \quad C_2(x_2, y_2) \quad C_3(x_3, y_3) \quad C_4(x_4, y_4)$$

Assume cameras are placed at known coordinates

$$\theta_1, \theta_2, \theta_3, \theta_4$$

$$y - y_1 = \tan(\theta_1)(x - x_1) \rightarrow y - y_1 = \tan(\theta_1)(x - x_1)$$

$$y - y_2 = \tan(\theta_2)(x - x_2)$$

$$y_1 + \tan(\theta_1)(x - x_1) = y_2 + \tan(\theta_2)(x - x_2)$$

$$y_1 + \tan(\theta_1)(x - x_2) = y_2 + \tan(\theta_2)(x - x_2)$$

$$y + \tan(\theta_1)(x - x_1 + \tan(\theta_2)) = y_2 + \tan(\theta_2)x - x_2 \tan(\theta_2)$$

$$x(\tan(\theta_1) - \tan(\theta_2)) = y_2 - y_1 + x_1 \tan(\theta_1) - x_2 \tan(\theta_2)$$

$$x = \frac{y_2 - y_1 + x_1 \tan(\theta_1) - x_2 \tan(\theta_2)}{\tan(\theta_1) - \tan(\theta_2)}$$

$$y = y_1 + \tan(\theta_1)(x - x_1)$$