Supplementary Material: The Rotation Matrix

Computer Science 4766/6912

Department of Computer Science Memorial University of Newfoundland

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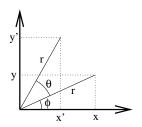
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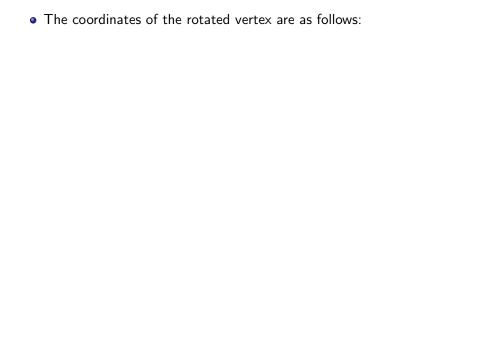
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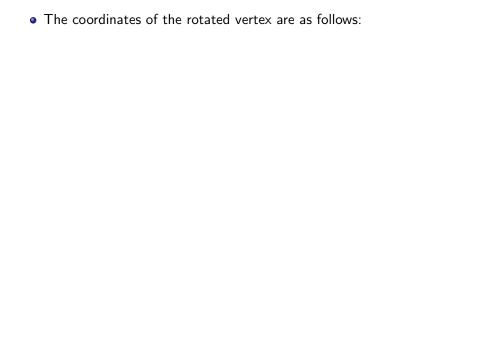
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$$x' = x \cos \theta - y \sin \theta$$

$$y' = x \sin \theta + y \cos \theta$$

$$\left[\begin{array}{c} x' \\ y' \end{array}\right] = \left[\begin{array}{cc} \cos\theta & -\sin\theta \\ \sin\theta & \cos\theta \end{array}\right] \left[\begin{array}{c} x \\ y \end{array}\right]$$

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$$R(\theta) = R_{ccw}(\theta)$$