DigiPen
INSTITUTE OF TECHNOLOGY

CS230
Game Implementation Techniques

Lecture 17

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Overview

- Reflection – Animated Point to Line

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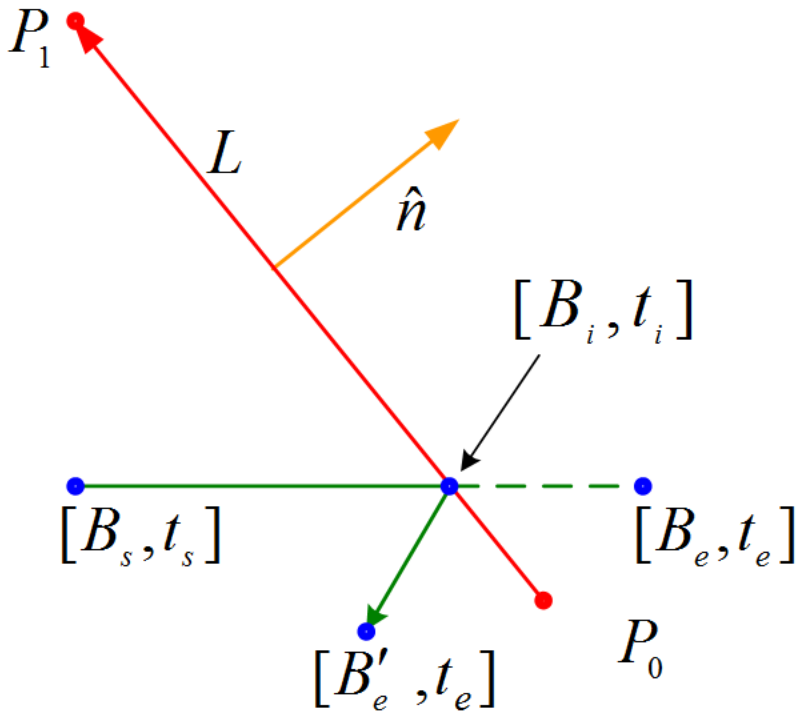
Position of Ball After Collision (1/8)

- Assuming elastic collision



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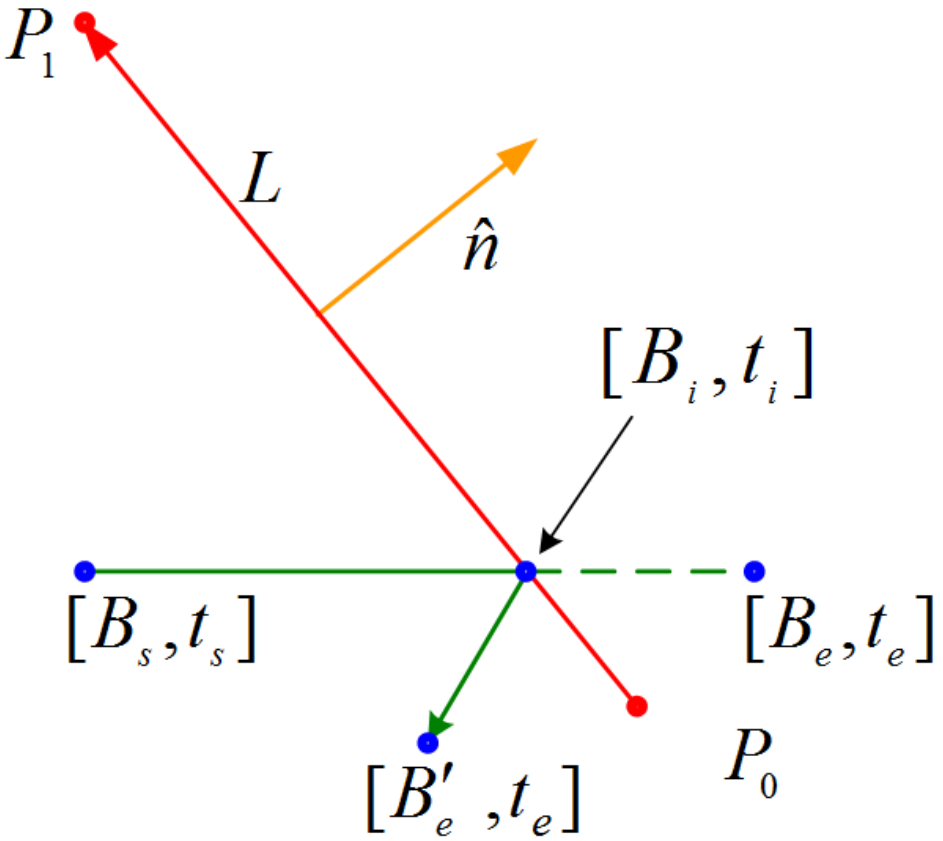
Position of Ball After Collision (2/8)



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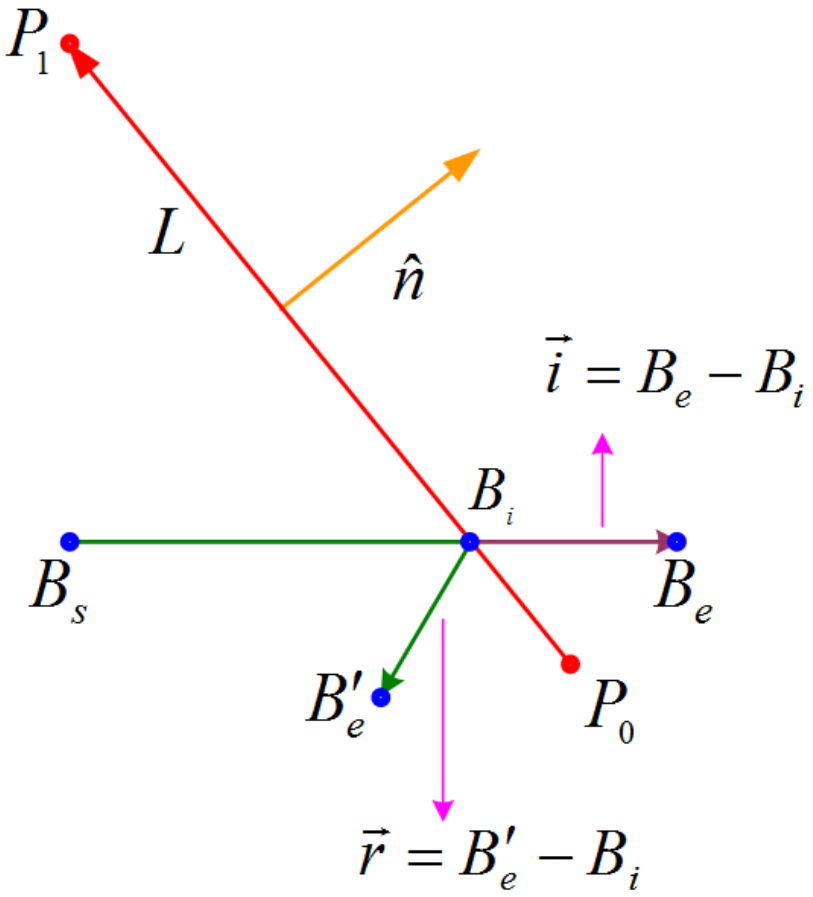
Position of Ball After Collision (3/8)



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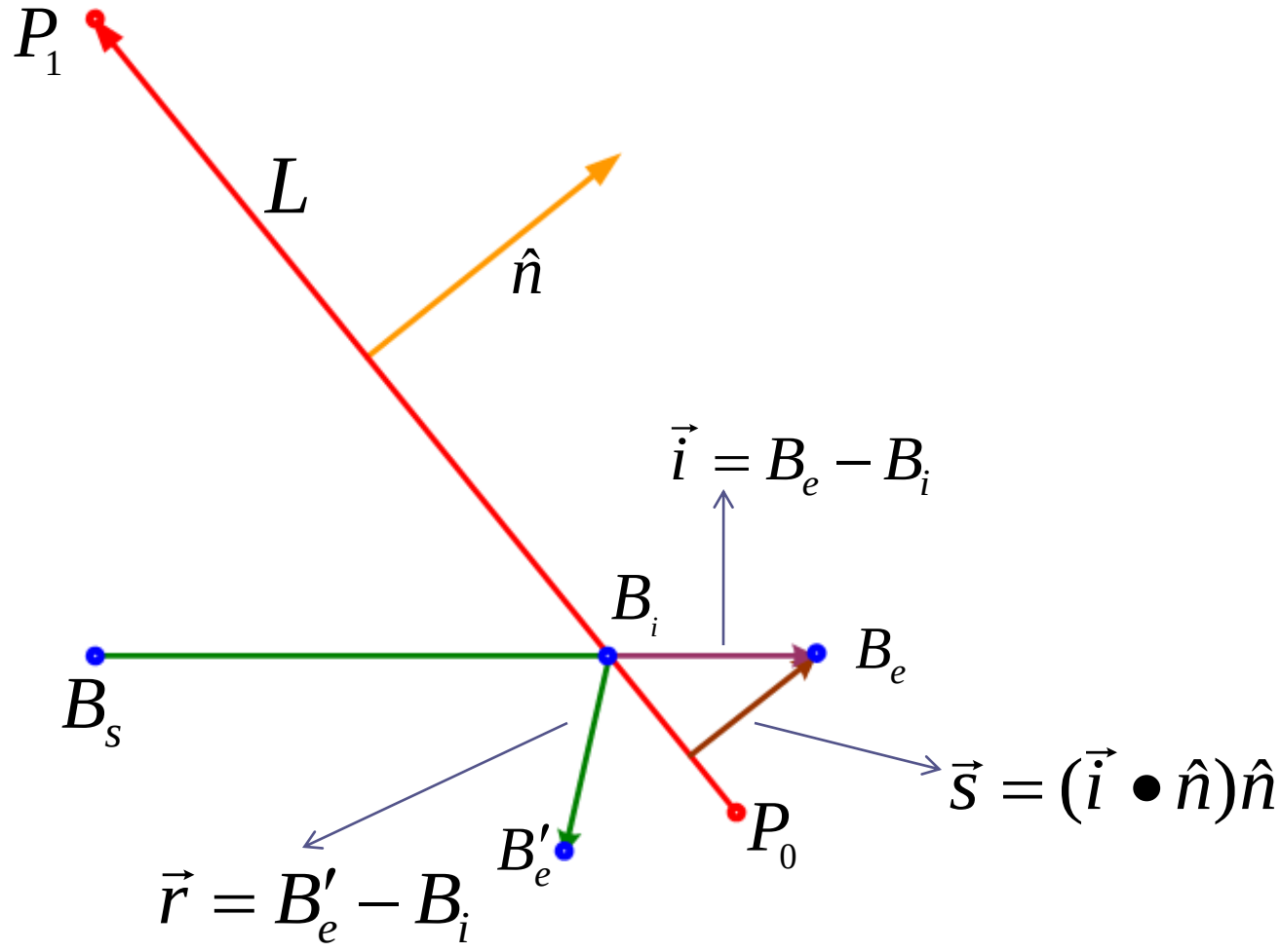
Position of Ball After Collision (4/8)



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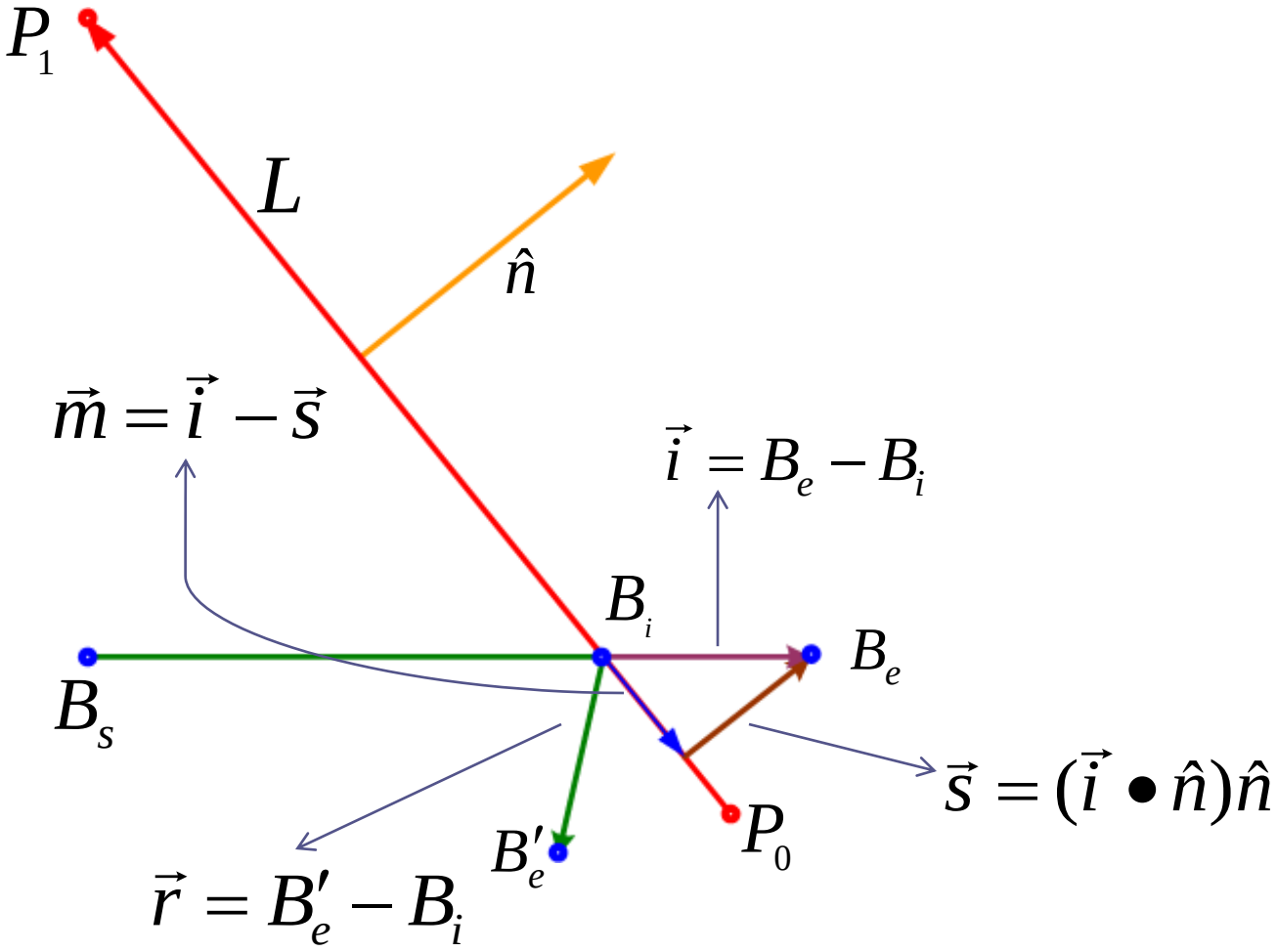
Position of Ball After Collision (5/8)



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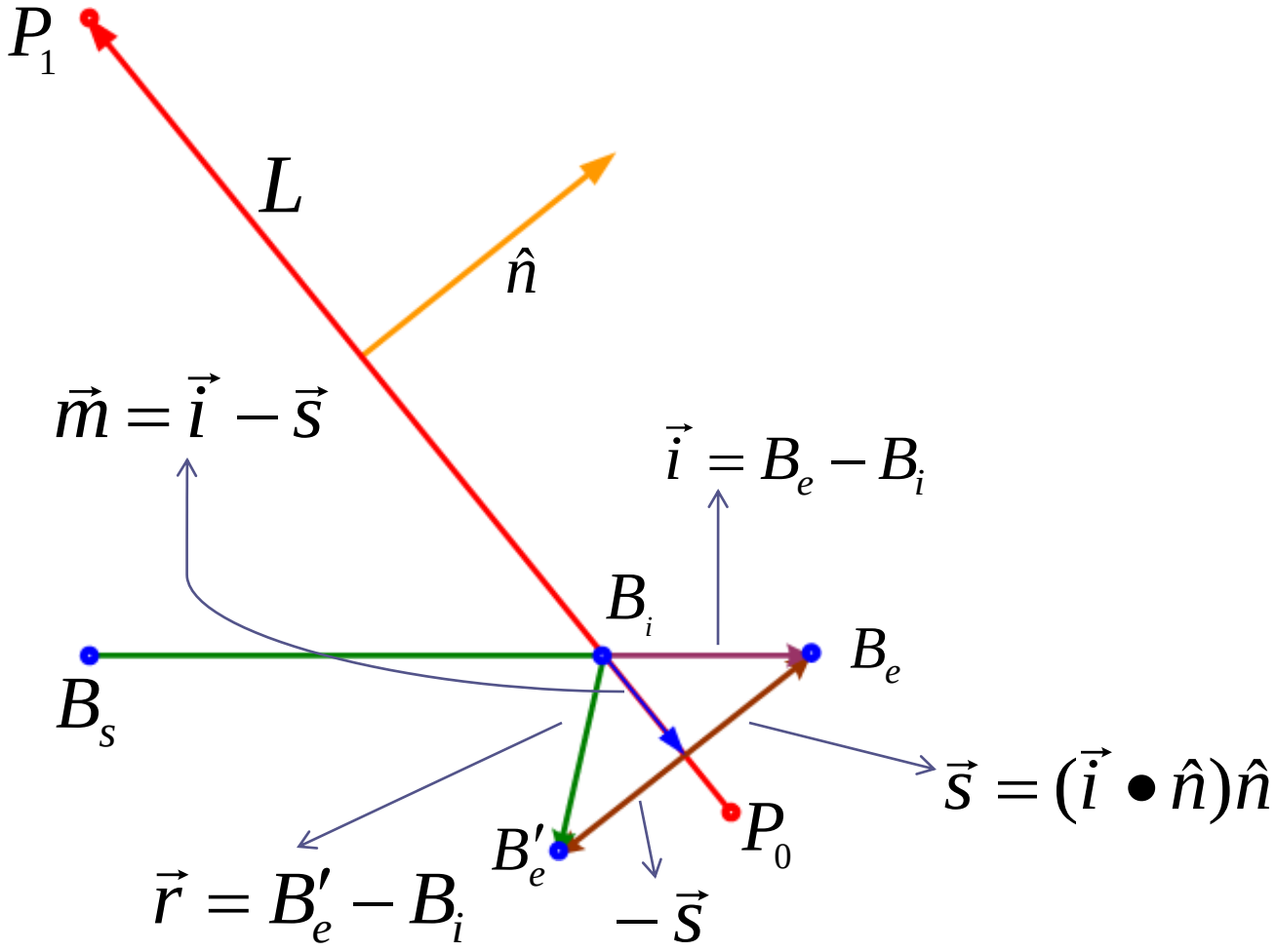
Position of Ball After Collision (6/8)



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Position of Ball After Collision (7/8)

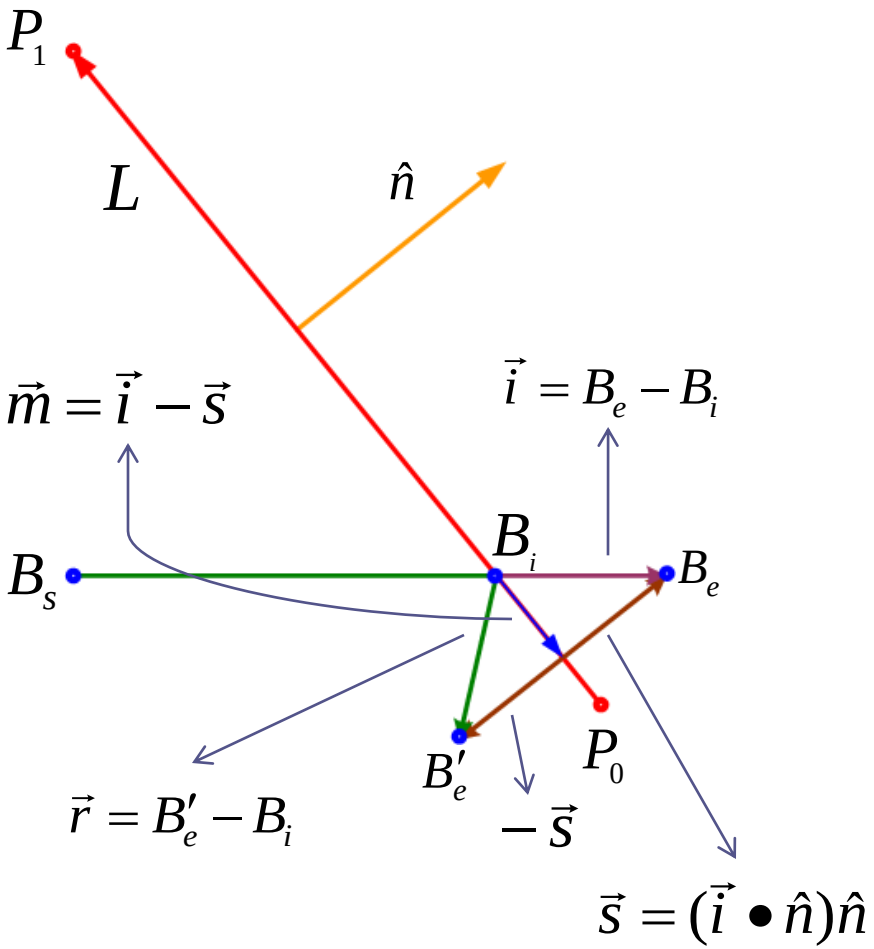
$$\vec{r} = \vec{m} - \vec{s}$$

$$\Rightarrow \vec{r} = \vec{i} - 2\vec{s}$$

$$\Rightarrow \vec{r} = \vec{i} - 2(\vec{i} \bullet \hat{n})\hat{n}$$

$$B'_e = B_i + \vec{r}$$

$$\Rightarrow B'_e = B_i + \vec{i} - 2(\vec{i} \bullet \hat{n})\hat{n}$$



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Position of Ball After Collision (8/8)

$$\vec{r} = \vec{m} - \vec{s}$$

$$\Rightarrow \vec{r} = \vec{i} - 2\vec{s}$$

$$\Rightarrow \vec{r} = \vec{i} - 2(\vec{i} \bullet \hat{n})\hat{n}$$

$$\hat{v} = \frac{\vec{r}}{\|\vec{r}\|}$$