### Jose Iglesias

**#1 SS | Bats: R, Throws: R | Detroit Tigers**

- **Birth Date**: January 5, 1990 (Age: 24)
- **Birthplace**: Havana, Cuba
- **Experience**: 3 years
- **College**: None
- **Ht/Wt**: 5-11, 185 lbs.

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<th>RESULT</th>
<th>AB</th>
<th>R</th>
<th>H</th>
<th>2B</th>
<th>3B</th>
<th>HR</th>
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<th>BB</th>
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<th>SB</th>
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<th>SLG</th>
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A (rough) sketch of the MLB batting average distribution.
A hierarchical model

\[ \theta \sim N(\mu, \tau^2) \]

\[ Y|\theta \sim N(\theta, \sigma^2) \]

Here, \( \theta \) denotes any batting average among the MLB players, and \( Y \) denotes the player’s batting average. The parameter \( \tau \) quantifies the prior standard deviation, and \( \sigma \) describes the sampling standard deviation. Specifically:

\[ \theta \sim N(260, 34^2) \]

\[ Y|\theta \sim N(\theta, 110^2) \]
A hierarchical model

Best guess for the players batting average, given the observed data:

\[ E(\theta|Y) = B\mu + (1 - B)Y \]
\[ = \mu + (1 - B)(Y - \mu) \]

\[ B = \frac{\sigma^2}{\sigma^2 + \tau^2} \]

Specifically:

\[ E(\theta|Y = 450) = B \times 260 + (1 - B) \times 450 \]
\[ = 260 + (1 - B)(450 - 260) \]

\[ B = \frac{110^2}{110^2 + 34^2} \]

\[ E(\theta|Y = 450) \approx 270 \]