

Lecture 16: Asymptotic normality of the MLE

Convergence of the MLE

Intermediate steps

Using the WLLN and the CLT, argue that:

- $\frac{1}{n} \ell''_n(\theta) \xrightarrow{p} -I_1(\theta)$
- $\frac{1}{\sqrt{n}} \ell'_n(\theta) \xrightarrow{d} N(0, I_1(\theta))$

Putting everything together

Regularity conditions

