

# Final Project: Case Study

40% Final project/presentation (CLO/App1) Demonstrate a satisfactory grasp of covered concepts, techniques, and main results
---

Investigate the Fast Fourier Transform (FFT) for a potential local implementation.

## Tasks

1. Research the background: the Fourier Transform (FT), the discrete version (DFT), FFT and its applications, and existing algorithms.
2. Compare the divide-conquer FFT algorithm with a brute force one based on ideas discussed in Lectures 19-20 (see the slide set).
3. Prepare a 15-minute presentation on research Task 1.

## Report

1. A pseudocode for the divide-conquer FFT.
2. A concise efficiency analysis based on the pseudocode (summation or recurrences).
3. Write up (1–2 pages max): commentary on comparison Task 2.
4. References.

## Submission – Due TBA

- Presentation: in-class
- Email PDF: executive summary (max 300 words) + report (items 1–4) + presentation slides at the end