

Assignment: Final Project

Assignment Overview

The final project is an ideal platform to show your comprehension of the course topics, and your capabilities in problem formulation, creative thinking, hands-on implementation, academic writing, presentation, and team working. You are highly encouraged to form a team of up to three members. You are also allowed to work by yourself, but this is not encouraged, as the work load might be too heavy.

Any topic related to audio signal processing is encouraged. Some possible topics are listed in the last section of the document. You are highly encouraged to propose your own idea. The scale of the project should be significantly larger than the homework problems. You are expected to go through the entire research cycle of the project, including problem formulation, literature review, algorithm implementation, testing, paper writing, and presentation.

How You Will Be Graded

Project proposal	5 points
Project update	5 points
Project presentation/demo	10 points
Project final report	10 points
Total	30 points

What and How to Hand It In

For each of the following documents, **each team just need to submit one copy. All students in the team will receive the same grade.**

- **Project proposal:** a 1- or 2- page document describing what you want to do, why you want to do it, and how you plan to do it for the project. A tentative week-by-week plan should be included. If it is a team project, a tentative task allocation plan should be included in the week-by-week plan. As time goes on, it is OK to deviate from your original plan and even the topic. But having a plan is better than not having a plan. Submit it via Blackboard. This assignment will be evaluated based on how well the problem is formulated and how clear your description is.
- **Project update:** a 20-min presentation with slides given to the instructor and TAs describing what you have done so far, what results you have achieved, and what needs to be done. If it is a team project, you should describe clearly who has done what. Submit via Blackboard. Include all the code and other documents you have composed in the submission. This assignment will be evaluated based on the amount and quality of work you have done and the clarity of your presentation.
- **Poster Presentation/Demo:** A PDF poster (no larger than 36"*48") illustrating your project, and any demo files you want to show during the poster session. Submit it together with the final report via Blackboard after the poster session. TAs and I will evaluate your poster/demo presentation during the poster session. We will evaluate it based on the amount and quality of your work and the clarity of your presentation.
- **Project final report:** A final report describing your project. Your report should be organized as a research paper, with abstract, introduction, method, conclusions, and

references. Use the ICASSP 2015 template to write your report. Latex and Word templates can be downloaded at <https://www2.securecms.com/ICASSP2015/papers/PaperKit.html#Templates>. The main text should not exceed 4 pages but the reference section itself could be on the 5th page. Submit it via Blackboard. You should include all the code and example audio files in the submission. This assignment will be evaluated based on the amount and quality of your work, the novelty of the project, and the clarity of the report.

When to Hand It In

All documents are due immediately at the beginning (i.e., 0:00AM) of the date specified on the course calendar. **Late assignments will receive grade deductions according to the grading policy.**

Possible Projects

Any idea related to audio signal processing are welcome. To start, you can find it useful to browse projects that previous students did before. You can find them on the course website. Some projects only involve audio analysis, and some only involve audio synthesis, while others involve both.