

TOPICS FOR PROJECTS

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Listed below are some suggested topics for projects for the course. For more details on a topic wait for the corresponding entry in the course blog (or talk to the instructor).

Unless mentioned otherwise each of these is an individual project. After you have decided on a project title, send an email to the instructor so that your name can appear in this document. Once a topic is “taken” by a student, it will not be “available” to others: so let the instructor know as soon as decide.

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Here is the list of proposed topics. If a number appears within parenthesis, it denotes the number of students who can work on the corresponding project.

1. Algebraic geometric codes (2).
2. Fast decoding of Reed-Solomon codes.
3. Decoding in presence of side information.
4. Codeword testing: Upper bounds (1) and Lower bounds (1).
5. Extractors and Codes.
6. Linear programming bounds on codes.
7. Deletion channels.
8. Arbitrary varying channel.
9. LP decoding.
10. Soft decoding.
11. Private Information Retrieval Schemes and Locally Decodable Codes: Upper bounds (1) and Lower bounds (1).
12. Broadcast channels.
13. Codes in hardness amplification.
14. Complexity issues in coding theory.