AM225: Final project information

The final project is worth 35% of the total grade and is due at 2 PM on Wednesday May 12th.1 The project, plus any other associated documents and code, should be submitted via Canvas.

In general, the project should be completed in teams of one, two, or three students. Projects with \( n \geq 4 \) people will also be allowed with permission of the instructor, but will require a plan from the team members about how the work will be divided. All team members will receive the same grade for the project.2 The best place to find team members is on Piazza, by posting some information about yourself and your areas of interest.

Topic

The final project should involve applying methods from the class to an application area of interest. The project should involve some coding, and purely theoretical projects will not be allowed. Any programming language can be used.

It is fine (and in many cases encouraged) to take project ideas directly from existing research topics. However, in this case, the project should be based on aspect or direction that is carried out specifically for this course, as opposed to simply submitting ongoing or existing work.

Format and length

The table below gives a very rough guideline about the length of the final project write-up.

<table>
<thead>
<tr>
<th>Team members</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>( n )</td>
<td>( [9.5n^{0.6}] )</td>
</tr>
</tbody>
</table>

However, the precise length of the write-up is not important; the scientific content of the project is more important, and keeping your write-up concise and to-the-point is preferable.

Project proposal – deadline April 2nd, 5 PM

To ensure the everyone starts off on the right track, each team must arrange a half-hour meeting with Eder, Nick, or Chris to discuss their project idea and direction. Only the meeting is required—it is not necessary to submit a written proposal.

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1For courses with final projects like AM225, Harvard’s policy is for the deadline to be on the day when the exam would be scheduled, if there was one.

2In exceptional circumstances, grades may be assigned differently among team members.
This must be completed by Friday April 2nd at 5 PM. Four points will be automatically awarded for doing this.

**Grade breakdown**

The project will be graded out of 60 points. A complete breakdown is shown below.

- **4 points** – Automatically awarded for completing the project proposal by the deadline.
- **8 points** – Project motivation: what problem are you trying to solve? What has been done before in this area? If appropriate, cite relevant books and papers.
- **24 points** – Project methods and results: what mathematics and code did you develop for your problem? Where appropriate, did you consider mathematical analyses of your approach? Is the code that you developed correct?
- **6 points** – Project conclusions: did you solve what you set out to do? What are possible limitations and problems with your approach? How you could you develop the project further?
- **18 points** – Project presentation and organization, divided among the following categories:
  - write-up clearly written with good spelling and grammar,
  - figures and tables clear and properly labeled,
  - code well-commented and well-organized.