

2021-2022

Capstone Projects Introduction

DSE 260A (Winter) and 260B (Spring)
MAS on Data Science and Engineering

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What is a Capstone Project?

- **Objective:** To complete an end-to-end analysis of a large (>10GB) dataset with big data characteristics.
 - Includes
 - data collection,
 - ETL,
 - exploratory analysis,
 - model building, and
 - visualization / reporting.
- **Products:**
 - Final report (preferred if publishable as a conference paper)
 - Output data products
 - Developed analytical tools/methods/workflows (if applicable)

Milestones for the Capstone Project

- Late Fall Quarter: Students finalize project teams and start collecting/exploring data.
- Winter Quarters: Teams work on their projects and present bi-weekly progress reports. Alternate meetings: ~2 hours monthly with advisor, twice a month for ~half an hour with capstone faculty (i.e. Altintas).
- Spring quarter: Teams finalize their projects, including documentation and final report and submit their materials to the UC San Diego Library. Teams make open presentations to their peers, advisor and capstone faculty, and receive final grade.

Question: Is team work allowed?

- Team work is required.
- A project team can consist of 3-5 students
- A full project plan on distribution of tasks and roles should be submitted to and approved by the advisor and Dr. Altintas

Question: How much work per week is expected?

- A project should require 5-10 hours per week by all project participants.
- The activities per week should be discussed in a regular meeting with advisors
 - Meetings at least twice month is advised

Question: Can I use company data or work on a company related project?

- Admissible under the following conditions:
 1. The input data and the results files will be made available to the project advisor.
 2. The final report on the project, on which the project grade will be based, is a public document.

Next Step 1: Form Teams

- Talk to other students to create teams with similar topical interests
- Email me (ialtintas@ucsd.edu) to ask if you have any questions

*** Start email subject with “MAS/DSE Capstone 21-22:” ***

Next Step 2: Choose a project

- Documents will be published and shared with the students
- Arrange meetings with the advisors to discuss their interests
- Update the document for project teams with your two project choices
- Email me (ialtintas@ucsd.edu) to ask if you have any questions

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Next Step 3: Plan your Project Coordination

- Things to consider:
 - Data sources
 - Analysis problems
 - What MAS/DSE knowledge you will be applying
 - Feasibility in a year
 - Output organization
- Agree on team responsibilities
- Create a regular meeting calendar
- Identify potential road blocks

Questions?