Class 18: Effective Teamwork

- Teamwork
- Project Introduction

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Review: Retrieval Augmented Generation (RAG)

A technique that combines retrieval-based methods with generative models to improve the quality and relevance of generated responses.

1. **R**etrieve the data relevant to the user's task.
2. **A**ugment the prompt with that data.
3. **G**enerate a response with the LLM.

Idea: Provide additional context to the model, but only the context that is relevant to the user's task.

Teamwork

Slides adapted from Erica Dawson.

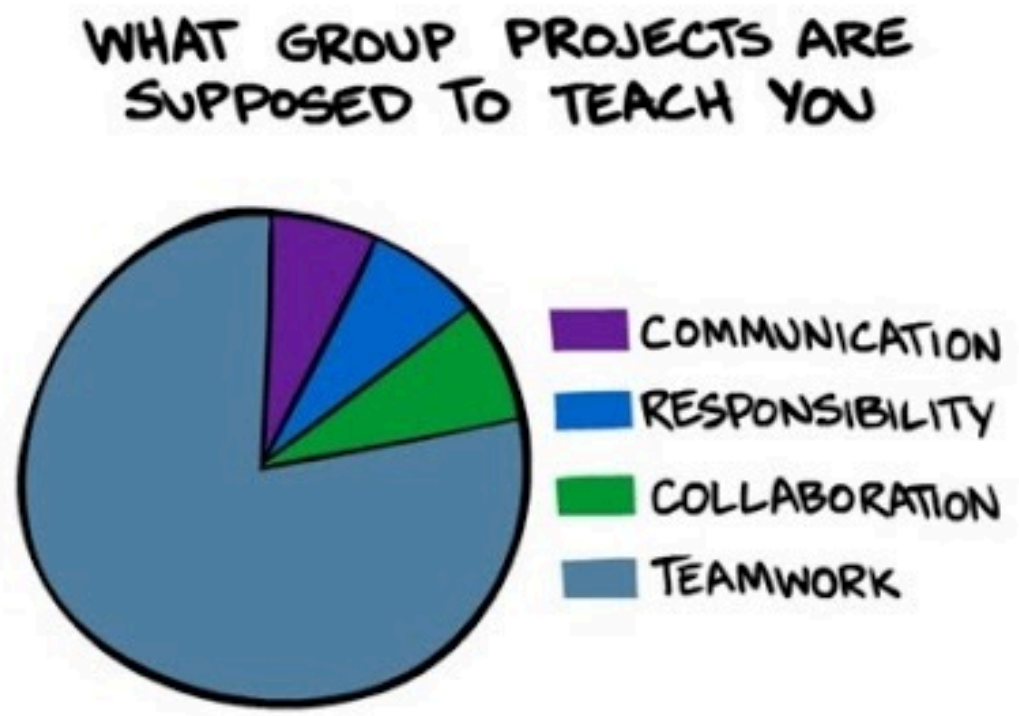
Teamwork

Learning Objective: Work effectively as a team: communicate, collaborate, resolve conflicts, and hold each other accountable.

Employers are seeking candidates with *power* skills. Especially teamwork.

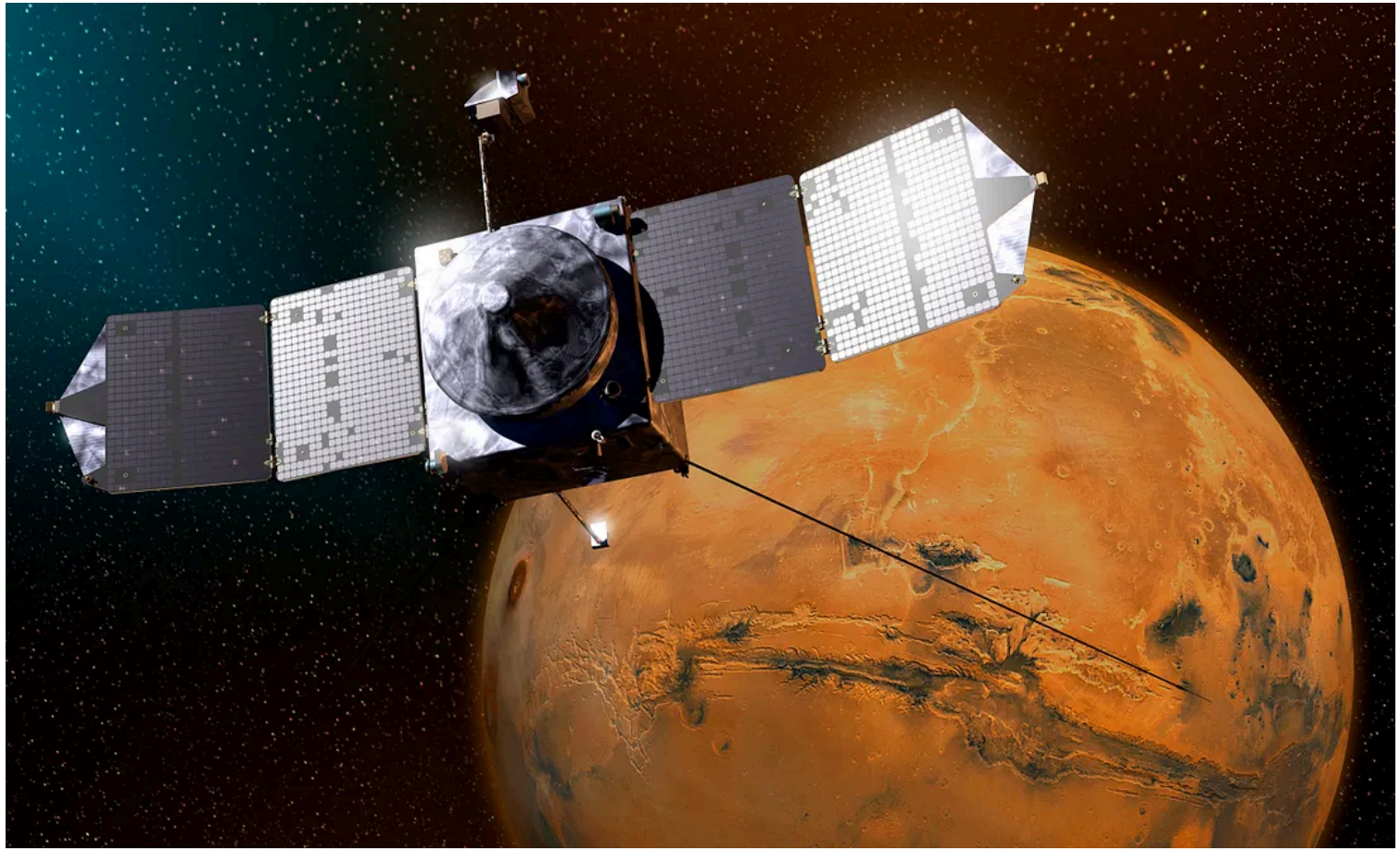
You will be expected to work effectively with others to solve complex problems; you will rarely work alone on a project.

Can you Relate?

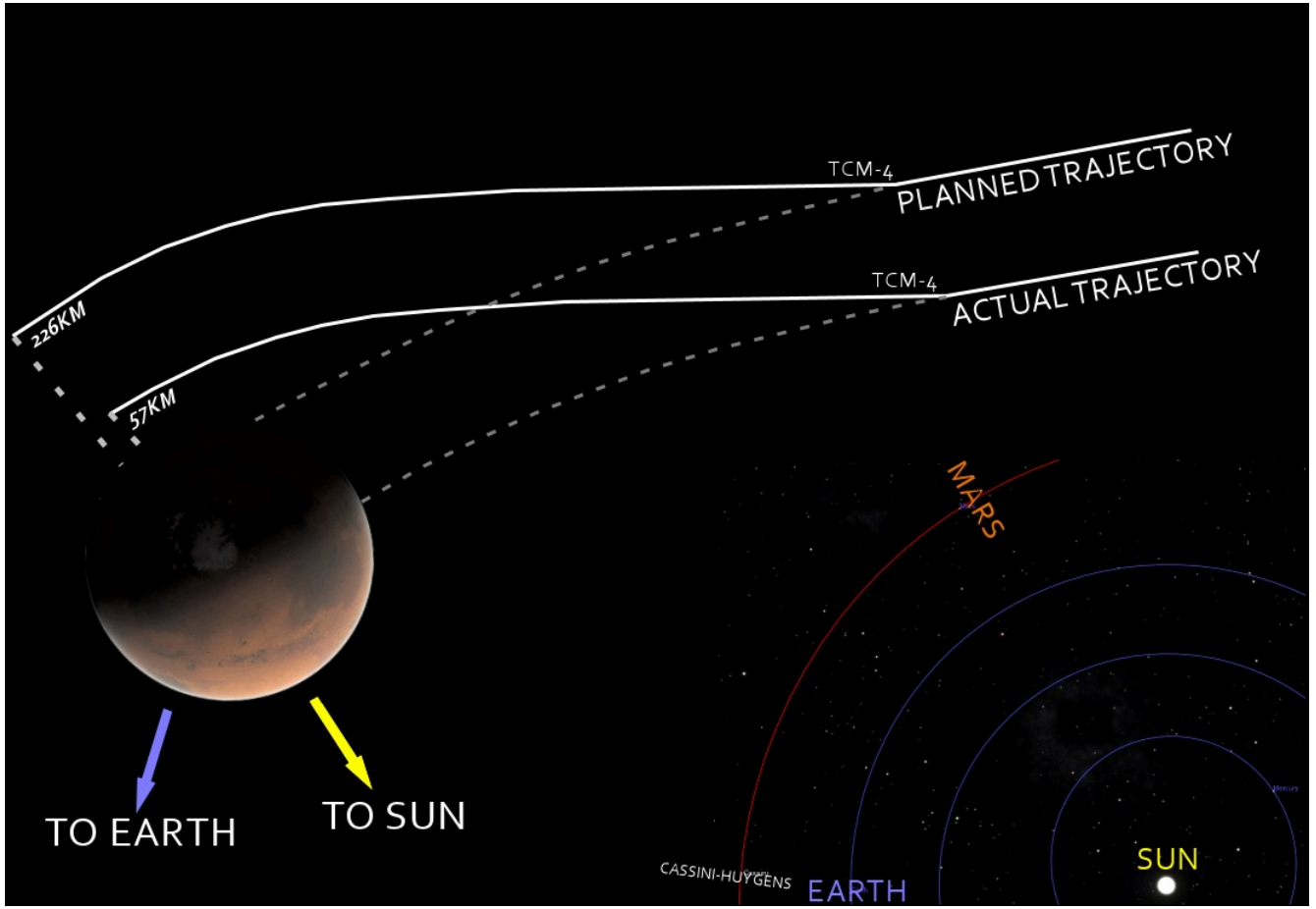




The Mars Climate Orbiter



Failure: Why?


TCM-4
PLANNED TRAJECTORY
TCM-4
ACTUAL TRAJECTORY
226KM
57KM
MARS
TO EARTH
TO SUN
CASSINI-HUYGENS
EARTH
SUN

Post-Mortem Analysis

- Different assumptions rooted in different cultures
- Informal, infrequent communication
- Failure to follow their own processes
- Lack of clear roles
- Failure to listen
- Failure to advocate effectively
- Overconfidence and wishful thinking

Discussion

What makes an effective teams?

What goes wrong?

Assumptions

- Goals
- Communication
- Work styles

Pretending

- Lack of feedback
- Lack of accountability
- Avoiding conflict

Assumptions

- What is our goal?
- How should we communicate?
- How should we behave?
- What does “success” look like?
- What is “high-quality”?
- …

Activity: What are your Assumptions?

Reflect on your assumptions about teamwork and communication.

Document several assumptions you have about working with others and communication on your handout.

Pretending

Pretending that everything is fine, when it’s not.

Common sources of pretending:

- Lack of feedback
- Lack of accountability
- Avoiding conflict

Feedback: SBI Model

Situation: Describe the situation where the behavior occurred.

Behavior: Describe the specific behavior that you observed.

Impact: Describe the impact of the behavior on you or others.

Activity: SBI Feedback

Practice giving feedback using the SBI model.

Example:

> “ Grace, in our presentation yesterday you interrupted me several times. I feel like you weren’t really listening and worry that it made a bad impression about our teamwork.
>
> … In the future, please allow me to finish speaking before you talk. ”

Addressing Conflict

> “ Ann is such a jerk! She interrupts me all the time and makes us look like a bunch of fools in front of the client. Don’t you agree? ”

Discussion: Is this an effective way to address conflict?

Accountability

Hold each other accountable for following through on commitments and for upholding the **team contract**.

1. Be timely
2. Be consistent
3. Assign group ownership
4. Assume the best
5. Focus on solutions

Team Contracts

- What are our goals?
- What are our ground rules?
- How will we communicate with each other?
- How will we communicate and work with others?
- What roles do we want, and what are the responsibilities?
- How will we hold ourselves accountable?
- How will we deal with conflict?
- …

Project

Activity: Project Repository

Create your project repository. (This needs to be completed today so that I can continue to configure your repository for next class.)

One team member should create the repository:

https://landrace.infosci.cornell.edu/courses/info4340-2026fa/repos/project

Project: LLM Supported App Prototype

For the remainder of the semester, you will work in teams to design and implement a **substantial** app prototype that uses an **LLM to support a user with a *complex* task**.

The project will be completed in **four** sprints, with a project proposal due at the end of the first sprint. The project proposal will include a description of your app idea, a few design sketches, and a team contract.

The final sprint will conclude with a presentation of your prototype.

Your team will pick a project topic. You may create a desktop **or** mobile app.

Project Scope

The app should be **substantial:** bigger/more complex than all homeworks.

Rule of Thumb: Take homeworks 2, 3, 4, and 5 and combine them into a single app. That's about the size and complexity required for this project. (Insufficient scope will result in a low grade.)

The prototype should be functional and work pretty well (but not necessarily perfectly).

INFO 5440: + Prototype a REST API that supports the app. (Example: a REST API that provides data to the app, or processes user input (e.g. re-encode a video). May not use an LLM.)

Project: Topic Don’ts

- No chatbots
- No “trackers”
- No “generators”
- No “planners”
- No “calculators”
- No “student” centric apps (e.g. automatic regrade requests, etc.)
- No accounts / logins / onboarding
- No calls to **external** APIs (you may call your own REST API)

Project: Topic Dos

Pick a topic that lets you showcase and develop your skills and creativity.

Pick a topic that helps solve a **meaningful problem** / *real* problem – especially problems with "messy" data.

Must run **entirely** in the browser and all functionality must be entirely self-contained in the app. (No calls to external APIs or services.)

Exception: INFO 5440 REST API must run in the codespace.

Activity: Project Idea Brainstorming

Working with your team, brainstorm project ideas. **Don't worry about feasibility!**

- What are some problems where an LLM could be useful?
- What are some problems that involve text?
- What are some problems that involve messy data?
- How can you support a user with their task?

Go to the board and brainstorm project ideas. Write down ideas. Make **very fast** sketches of an idea. Draw ideas. (Need inspiration? https://flathub.org)

What's Next?

Due Thursday: Homework 5

Assigned Thursday: Project, Sprint 1