Tutorial & Assignment Week 4A — Deep Research

Goals: Use ChatGPT Deep Research or Claude Research to make progress on a project you care about, practice directing a research task, and evaluate the evidence behind the result.

Due: Submit the indicated portions on Gradescope by Sunday Oct 18th at 11:59pm, and discuss with your TA during tutorial in Week 5.

Hello everyone! This week, most of the tutorial will be yours to work on something you want to understand, decide, or build. We will start with a short conversation about the guest speakers and a live demonstration of Deep Research. Then you will use the tool on a project of your choice.

In Week 2, you practiced describing a task clearly. In Week 3, you chose the sources an AI system could use. This week, you will give an AI a research task and let it find and synthesize sources, while you decide what to trust and how to use the findings.

Assignment outline:

This document is intended to be started in tutorial and completed for homework if necessary. Work through it in the order given.

- Discuss the guest speakers at your table, followed by a few brief share-outs.
- Get a better idea of the tech behind these tools
- Use the rest of the tutorial for your own project/own purposes while TAs conduct individual Assignment 3 checks.
- Submit your research brief, your work with a short evidence check, and a reflection.

Part 1: Tutorial group work

Group Activity 1 — Guest Speaker Reactions!

At your table, share something that struck you in what the guest speakers said. What did you find useful, surprising, or worth questioning? Did anything change how you think about using AI in your own work?

Deliverable: You don't need to submit anything for this portion of the assignment.

Group Activity 2 — Deep Research

We will show how to start a research task, give it a useful scope, and inspect the resulting sources. Watch for the choices the person directing the research still needs to make: what question to ask, what evidence matters, and whether the findings actually answer the question.

> Ex: An engineer is beginning a new role in a research lab and is asked to contribute to a project developing technology for military applications. They aren't sure they morally agree with this work. Rather than relying on assumptions, they decide to investigate what the lab actually does and how its outputs are used before deciding whether to participate.
>
> They use an AI research tool (such as Deep Research) with the following prompt:
>
> - **Goal:** I'm deciding whether to join a research project developing military technology, and I want to decide based on evidence, not assumptions.
> - **Research:** What this type of lab does, who funds it, and how its work is used in practice, including civilian spin-offs and any documented harmful or military uses.
> - **My context:** I'm an early-career AI/engineering researcher, uncommitted, and open to persuasion either way. I care about downstream consequences, not just stated intent.
> - **Sources:** Prioritize primary sources (lab publications, funding disclosures, grant and contract records), peer-reviewed work, and credible reporting from the last five years. Include both critics and defenders.
> - **Output:** A brief of about 800 words covering (1) what the lab does, (2) funding and stakeholders, (3) documented uses, (4) the strongest arguments for and against participating, and (5) questions to ask the PI.
> - **Rules:** Cite sources for key claims, separate evidence from your inferences, and flag disagreements or gaps that could affect my decision.

At this link, Report, you'll find the report that Claude gave about this question. Note: it is excessively long and you should really only skim through it. But, keep in mind that this is the type of "normal" length that a deep research report provides.

Now, within your group, choose one or more of the questions to discuss.

1. **How much should we trust claims that rest on anonymous or contested sourcing?**
   The Minab findings come from anonymous officials describing an unreleased review, and the Gaza claims rest on a few intelligence sources the IDF disputes. Which claims in the brief would you be comfortable repeating, which would you hedge, and what would you want to see before upgrading your confidence?
2. **What would you check yourself before relying on an AI-generated research brief?**
   The brief flagged some of its own weak spots, like the $54.6B vs. $1B DAWG budget figure and the varying Google letter signature counts. Pick two or three claims and trace them to their original sources. Did the citations support the claims as stated? What did you find that the brief couldn't tell you, and what does that suggest about when to use deep research and when to go to primary sources?
3. **Where do credible sources disagree, and is it about facts or values?**
   Andrew Ng and Palmer Luckey argue that capable defense AI is a moral obligation, while the ICRC and the Minab reporting point to harms from the same technology. Sort the disagreements

> in the brief into factual disputes (could be settled with better evidence) and value disagreements (would persist even with perfect evidence). Which type is the brief better at helping you resolve?

Deliverable: You don't need to submit anything for this portion of the assignment.

Part 2: Individual AI tool work

Run your deep research

Now, we're going to have you complete a deep research run of your own. To start, choose a topic or a problem where gathering and comparing information would help you make real progress. PS- your final project will be due in about 6 weeks, so if you have an idea for something you want to build, you could use that as your deep research prompt! Also feel free to brainstorm with your tablemates :)

Before launching the research, decide what you want to accomplish and what would make the result useful. Write an opening prompt that tells the tool your question or goal, relevant context and constraints, and the form of output you want. Include any limits on the research, such as location, time period, budget, or kinds of sources.

You are welcome to use the Week 2 "interview me" pattern to clarify your goal first. You do not need to use the template below, but it may help you get started:

> I am trying to [understand, decide, or build something]. Research [specific question] so I can [use the findings for a purpose]. My relevant context and constraints are [details]. Focus on [scope and source preferences]. Produce [useful output format]. Cite sources for important factual claims, distinguish evidence from your own inferences, and flag disagreements or gaps that could affect my decision.

Deliverable, all copy and pasted into Gradescope:

1. Copy and paste your opening research prompt into Gradescope
2. Name the tool you used.
3. Include any important clarification (ie, follow up prompts) you gave before the research began.

Part 3: Non-AI tool work

Interrogate your deep research

Now step away from the AI and look critically at the deep research report it produced. Your goal is to figure out what the report is actually arguing, and whether its sources really support that argument. Follow the instructions below, and upload each part to gradescope.

Step 1: Identify the report's main argument.
In one or two sentences, state the central claim or perspective of your report.

Step 2: Describe your two most important sources.
For each one, include:

- **Short name:** a label you can use to refer to it
- **Type of source:** for example, peer-reviewed article, news report, government document, or blog post
- **Where you found it:** the database, website, or link you used to locate it
- **What it contributes:** the key information or perspective it adds to the report's argument

Step 3: Reflect on source reliability.
Write a few sentences responding to at least one of these questions:

- Can the report's claims be easily traced back to a source?
- Does the link or citation actually lead to the right source?
- Does the source really say or argue what the report claims it does?
- Is the source reputable?
- Is the source woven into the report's argument accurately and fairly?

Optional: If it helps, discuss how your sources relate to each other. They might overlap, disagree, come from different time periods, or differ in depth (for example, general background versus specialist knowledge).

Deliverable, all copy and pasted into Gradescope:

1. Your one or two sentence summary of the report's main argument.
2. The names, types, "where you found it", and "what it contributes" for your two most important sources.
3. Your few sentence reflection to one of the questions in step 3

Part 4: Reflection — Trust

Write one short paragraph, approximately 4–6 sentences, responding to at least one of the questions about what happened when you used Deep Research on your own project.

- What did it let you accomplish? Give one concrete example of a choice you still had to make yourself.
- Do you trust this result?
- What would you do next before relying on or sharing the result? You may also connect your experience to something a guest speaker said.

Deliverable: Copy and paste your reflection into Gradescope.

Submission

You should have three items to submit to Gradescope. Be ready to discuss these with your TA next week:

1. Opening research prompt
2. Verifiability reflection
3. Trust reflection