Teaching with AI

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Questions

- Should we have courses on AI, and, if so, what should they cover?
- To what extent and how should we incorporate AI into other courses?
- How can we use AI to enhance learning?
- How can we assess students?

One View

- We should expect and encourage students to adopt AI as their go-to tool.

- Rather than opening a spreadsheet, they should open a chat (or maybe a chat in a spreadsheet).

- Every course should be about collaborating with AI to improve decisions and outcomes. But AI should not take center stage. It should just be the standard tool for analysis and reporting.

- We have to assess students on whether they can defend the work they submit – whether they can convince an audience that the reasoning and analysis is reliable. AI can help us in the assessment process.

A Course on AI

- At present, we need courses on AI, because it has not been integrated into all courses.

- Once it is integrated into the curriculum, we will not need stand-alone courses.

- I will describe the course I am teaching (preparing to teach) at Rice: mgmt675.kerryback.com. Much of it should soon be standard stuff that everyone does.

- In the process, I'll talk about using AI to streamline course preparation. I'll come back to enhancing learning.

Enhancing Learning: NotebookLM

- In addition to using AI for financial analysis, students should use AI to learn.

- Can ask them to chat with a chatbot about a subject in lieu of reading assignments.

- Can use retrieval-augmented generation (chatbot answers questions from specific sources)

- NotebookLM is an easy way to do this. Example: chatbot about Pricing and Hedging Derivative Securities (online textbook by Back, Liu, and Loewenstein)

- NotebookLM provides other tools, including AI-generated slide presentations. Example: Presentation of Getting Paid to Hedge: Why Don't Investors Pay a Premium to Hedge Downturns? by Kapadia, Ostdiek, Weston, and Zekhnini, JFQA, 2019

AI for Class Preparation and Research

Some Claude Code prompts:

- Using this data . . . compute these statistics . . . and put them in a latex table like this . . . and insert them in my paper in . . .
- Using this data . . . generate figures like this . . . and insert them in . . .
- I don't like the way I worded things in this paragraph . . . Please clean it up.
- I want to add a slide to my lecture about . . . It should say . . . in bullet points
- Use the Google API to get an image that represents . . . and insert it into . . .
- Make this edit to . . . and then render, commit, and push to update this website . . .
- Build my latex file. Find and fix any errors.
- Using sympy, simplify this integral . . .