Getting Started with AI Agents

Instructor: Fei Tan

 @econdojo   @BusinessSchool101   Saint Louis University

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The Road Ahead

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What is AI Agent?

AI agent is a system that can perceive its environment, make decisions, and take actions to achieve specific goals—often autonomously

Key Features of AI Agents

- **Perception**: Gathers information from its environment (e.g., data, user input)

- **Reasoning**: Analyzes information and determines the best course of action

- **Action**: Executes tasks or provides recommendations

- **Learning**: Improves performance over time based on feedback

What is GitHub Copilot?

GitHub Copilot is an AI agent that helps not only software developers, but also business professionals and students work smarter in digital environments

Why Copilot Over Alternatives?

- **Better Workflow**: Unlike chatbots (e.g., ChatGPT), Copilot integrates directly into your workflow via VS Code or GitHub Codespaces

- **Ecosystem Fit**: Built for the Microsoft/GitHub ecosystem, including GitHub Classroom for student enrollment, and widely used in business and education

- **Open Source & Model Flexibility**: Copilot is now open source and supports integration with all leading large language models (ChatGPT, Claude, Gemini, Grok)

A Simple Business Demo

Assume that you perform an LBO on Company ABC at the end of 2019. Company ABC will have revenues of $200mm in 2020, which will grow by $25mm annually. Assume ABC has a 20% EBITDA margin, D&A expense is 10% of revenue, and that capital expenditures will be $10mm annually. Assume the company has no change in net working capital, a tax rate of 50%, initial leverage of 5.0x forward EBITDA and an interest rate of 5%. Assume that the cash generated only pays down debt upon exit.

Question:

If you can sell Company ABC at the end of 3 years based on forward EBITDA projections and the entry / exit multiple is 10.0x forward EBITDA, what is the implied MoM and IRR?

Using Copilot in VS Code (Local)

- Register a GitHub account and install Visual Studio Code with Copilot extension

- Create a **markdown** file for the LBO scenario and a **CSV** file to summarize the results

- Type your analysis steps in the Copilot chat (accept, edit, or ask for further check):
  - Project revenue and EBITDA for 2020-2022
  - Calculate EBIT
  - Calculate EBT
  - Calculate net income
  - Calculate free cash flow
  - Calculate MoM and IRR, and summarize findings in the markdown file

Using Copilot in GitHub Codespaces (Cloud)

- Create a GitHub repository in the browser

- Open with Codespaces to launch a cloud-based VS Code environment

- Follow the same steps as in the local VS Code

- Invite colleagues to join for real-time collaboration and discussion

- Use GitHub Classroom to enroll students and distribute assignments

Reflections on AI and Higher Education

The internet brought information equality; AI will bring knowledge equality

The Evolving Role of Educators in the AI Era

- AI gives students instant access to knowledge—our traditional advantage is fading

- The true value of educators now lies in:

    - Guiding critical thinking and connecting knowledge to real-world challenges

    - Fostering judgment, creativity, and strong values

    - Empowering students to use AI to solve meaningful problems

- Let us embrace AI, adapt our teaching, and inspire students to turn knowledge into real impact

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