RICE | BUSINESS
Jones Graduate School of Business

Course Introduction

MGMT 675: Generative AI for Finance

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From Makers to Checkers

Derek Waldron, JP Morgan Chief Analytics Officer

What we're working towards is that every employee will have their own personalized AI assistant; every process is powered by AI agents, and every client experience has an AI concierge.

You'll still have people at the top who are managing and have relationships with clients, but many, many of the processes underneath are now being done by AI systems.

Workers would shift from being creators of reports or software updates, or 'makers' ... to 'checkers' or managers of AI agents doing that work.

The New Skills Landscape

Brookings Institute, 2025

As AI models begin to handle underwriting, compliance, and asset allocation, the traditional architecture of financial work is undergoing a fundamental shift.

As job descriptions evolve, so does the definition of financial talent. Excel is no longer a differentiator. Python is fast becoming the new Excel.

But technical skills alone will not cut it. The most in demand profiles today are those that speak both AI and finance.

Why AI is Useful for Finance

- AI can write code for financial analysis and building things (vibe coding)
- AI can generate Excel workbooks
- AI can draft reports (Word docs) and presentation decks (PowerPoint)
- AI can look up and answer questions about company practices, past company reports, communications, etc.
- AI can search the web, pull data from databases, or call APIs
- AI can analyze documents, contracts, or financial statements
- AI can automate repetitive tasks and workflows
- AI can communicate directly with clients (with strong controls)

Course Focus

Financial Analysis

- Cost of equity
- Mean-variance analysis
- Pro-forma statements
- Discounted cash flow
- Simulation

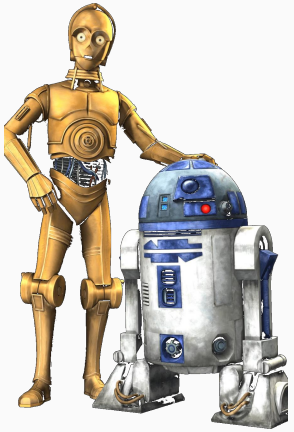
Using AI

- Financial analysis
- Visualizations
- Spreadsheets
- Word, PowerPoint
- Retrieval augmented generation (RAG)

Building Agents

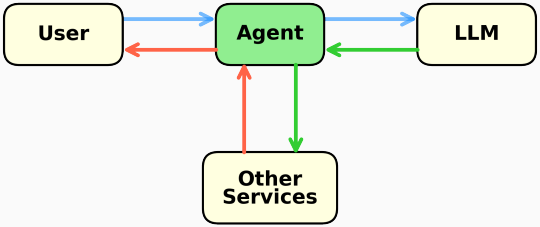
- System prompts
- API calls
- Agent logic
- Claude skills

Chatbots and Agents



What is an AI Agent?

- A chatbot equipped with tools to perform actions beyond conversation.
- Code execution (Python, etc.)
- File generation (Excel, Word, PDF)
- Database access
- Web search and API calls
- System commands (copy, move files, etc.)



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- Prompt + System Prompt → LLM
- LLM → SQL code or a question for the user
- Agent → SQL code to database or → question to the user
- Eventually, SQL code → database
- Database → data or error message
- Error message → LLM
- Eventually data → user

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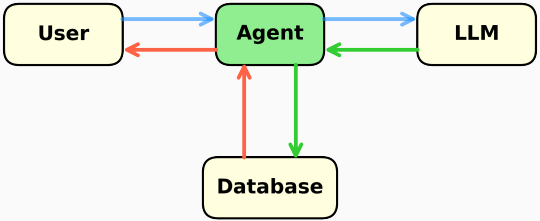

How do We Build It?

- System prompt provides info to LLM and tells it what we want
- Agent logic is hard-coded as "if ... then ..." (**not AI**)

Spreadsheets → AI Agents

What can we build?

Where All Computing is Probably Headed

- **Terminal Era:** Unix, MS-DOS, Linux, ...
- **Graphical User Interface:** Point & click
- **Chat:** AI agent does everything. Agents will change the way people use computers.

AI Tools in Course

- Claude for Excel
- Python execution in ChatGPT and Claude
- Google Gemini in Colab
- **Claude Code in VS Code**
- Cursor and Google AntiGravity