Lecture XII - Presentations and Discussion

Programming with Python

Dr. Tobias Vlćek

EP 12: Demo Day

The investor is in the room

Back in Session VI she stood at a whiteboard and asked why everything here was built from scratch. Today the answer is on your screens: built by you, with the standard library, pandas, plots, git, and an agent you learned to supervise.

The rules: **7 minutes** presenting, **3 minutes** of questions, order drawn at random.

While you watch

- Note one thing you would have done differently, and one thing you are taking for your own next project
- Questions are part of the format: specific, kind, useful

Your Future with AI

AI and your first job

- **US:** in jobs AI can largely do, employment of 22-25-year-olds trails their peers by **19%**, through fewer hires, not layoffs [1]
- **Sweden:** a smaller gap of **5.5%**. Job ads fell with interest rates rather than with AI [2]
- **Denmark:** accountants, HR, marketing, office clerks: no effect on pay or hours above **2%** [3]

So far: **fewer junior hires**, no economy-wide job losses, size disputed. All three are working papers.

What AI does to work and skill

- **BCG consultants:** with AI, **12.2%** more tasks, **25.1%** faster. On a task beyond AI's reach, **19%** less likely to be right [4]
- **Patent lawyers:** AI lifted the juniors' work, but judgment *without* AI grew **only for the seniors** (working paper) [5]
- **Developers learning a new library: 17%** lower on the quiz with AI, worst on **debugging** (preprint) [6]

- At school, an AI tutor giving hints, not answers, largely removed the learning loss [7]. Part I worked the same way

What stays valuable

- At P&G, one person with AI **matched a team** without it [8]
- Today you showed projects built with an agent you supervised, twelve sessions after your first `print()`
- The verification boundary: usable delegation ends where your ability to **check** ends. Growing that boundary outward is your career
- Your edge, deliberately kept: **explain every line before you accept it**, and work without AI sometimes

Discussion: from junior to senior

> **Note**
> One minute with your project group, then three voices from the room:
>
> If AI drafts most junior work, how does a junior analyst become a senior one?

Send-off

Keep programming

The skill fades if it sits idle. A few ways to keep it alive:

- Use Python in your **thesis**: data cleaning, analysis, plots you can defend
- Find a way to **apply it at work**: the repetitive task nobody wants to do by hand
- **Advent of Code**: free, ad-free programming puzzles, one a day from **December 1st**. A genuinely fun way to keep the muscle warm.

Thank you

- We covered the basics of Python: from a first `print` to a real project on your own machine
- I hope you enjoyed it, and I hope it's useful long after the grade
- If you have questions or feedback, please tell me

All the best for your studies and your career. Now go build the thing.

Literature

Keep reading

The literature list of this course has more books, several of them free online.

References

Bibliography

[1] E. Brynjolfsson, B. Chandar, and R. Chen, “Canaries in the Coal Mine? Six Facts about the Recent Employment Effects of Artificial Intelligence,” Stanford, CA, Working Paper, Aug. 2026. [Online]. Available: https://digitaleconomy.stanford.edu/publication/canaries-in-the-coal-mine-six-facts-about-the-recent-employment-effects-of-artificial-intelligence/

[2] M. Lodefalk, L. Löthman, M. Koch, and E. Engberg, “Same Storm, Different Boats: Generative AI and the Age Gradient in Hiring,” Örebro, Working Paper 2/2026, Mar. 2026. [Online]. Available: https://ideas.repec.org/p/hhs/oruesi/2026_002.html

[3] A. Humlum and E. Vestergaard, “Still Waters, Rapid Currents: Early Labor Market Transformation under Generative AI,” RFBerlin Discussion Paper 078/26, Mar. 2026. [Online]. Available: https://www.rfberlin.com/network-paper/still-waters-rapid-currents-early-labor-market-transformation-under-generative-ai/

[4] F. Dell'Acqua *et al.*, “Navigating the Jagged Technological Frontier: Field Experimental Evidence of the Effects of Artificial Intelligence on Knowledge Worker Productivity and Quality,” *Organization Science*, vol. 37, no. 2, pp. 403–423, Mar. 2026, doi: 10.1287/orsc.2025.21838.

[5] D. Autor *et al.*, “Does AI Assistance Enhance or Erode Expertise? Evidence from a Three-Month Field Experiment in Patent Drafting,” Cambridge, MA, Working Paper 35720, Sep. 2026. doi: 10.3386/w35720.

[6] J. H. Shen and A. Tamkin, “How AI Impacts Skill Formation.” Accessed: Oct. 26, 2026. [Online]. Available: https://arxiv.org/abs/2601.20245

[7] H. Bastani, O. Bastani, A. Sungu, H. Ge, Ö. Kabakcı, and R. Mariman, “Generative AI without Guardrails Can Harm Learning: Evidence from High School Mathematics,” *Proceedings of the National Academy of Sciences*, vol. 122, no. 26, p. e2422633122, Jul. 2025, doi: 10.1073/pnas.2422633122.

[8] F. Dell'Acqua *et al.*, “The Cybernetic Teammate: A Field Experiment on Generative AI and Teamwork,” *Organization Science*, vol. 37, no. 4, pp. 1217–1242, Jul. 2026, doi: 10.1287/orsc.2025.20702.