



UNIVERSITÀ  
DI SIENA  
1240

# The Economics of Artificial Intelligence

A Three-Day Summer School Course

3-5 June 2026

Venue:

Piazza San Francesco, 7 -Siena  
Cripta Hall

Department of Economics, University of Siena

Lecturers:

Prof. Nicola Dimitri, University of Siena; and Prof. Wim Naudé, RWTH  
Aachen University and Coimbra University

# Program

## Day 1: Foundations and Microeconomics of Intelligent Agents

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- **Session 1: Morning: AI & Information Theory (10:00-13:00, with a break)**
  - Definitions and origin of AI
  - From Turing to Google: Information entropy and the "bit" (Shannon)).
  - AI as pinnacle of the Digital Revolution

Lunch break

- **Session 2: Afternoon: Rationality and Machine Choice (14:00 – 17:00, with a break)**
  - Implementing Expected Utility Theory in machines
  - Bounded rationality and the cost of deliberation
  - Neural Utility Functions and the Small/Large World distinction

## Day 2: Macroeconomics of AI: Labor, Growth, and Inequality

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- **Session 3: Morning: AI in the Production Function - Labour market impacts (10:00-13:00, with a break)**
  - How AI shifts the production function
  - Impacts on employment: augmentation vs automation
  - Impacts on inequality: skill-biased AI and winner-take-all effects

Lunch break

- **Session 4: Afternoon: AI in the Production Function – Economics growth impacts (14:00 – 17:00, with a break)**
  - Ideas and growth: endogenous growth and combinatorial innovation.
  - AI in the Ideas Production Function
  - Explosive growth through AI?

## Day 3: AI Governance, Public Finance, and Speculative Trajectories

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- **Session 5: Morning: Steering Innovation and Big Data Policy impacts (10:00-13:00, with a break)**
  - AI Dystopia (s) ?
  - Preventing AI Arms Races
  - Public Procurement for Innovation and Big Data as a steering tool.

Lunch break

- **Session 6: Afternoon: The Future Social Contract (14:00 – 16:00, with a break)**
  - AI Governance and AI Governance in the EU
  - Public finance in the age of AGI: Shifting taxes to compute and robots.
  - Speculative Economics: The AGI arms race, the Treacherous Turn, and Interstellar strategic competition (The Dark Forest)
- **Assessment Session: 16:30-17:30**

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## Key Readings

Wim Naudé, Thomas Gries and Nicola Dimitri (2024). *Artificial Intelligence: Economic Perspectives and Models*. Cambridge: Cambridge University Press

Daron Acemoglu, The simple macroeconomics of AI, *Economic Policy*, Volume 40, Issue 121, January 2025, Pages 13–58, <https://doi.org/10.1093/epolic/eiae042>

Acemoglu, Daron, and Pascual Restrepo. ( 2018). The Race between Man and Machine: Implications of Technology for Growth, Factor Shares, and Employment. *American Economic Review* 108 (6): 1488–1542.

Philippe Aghion and Simon Bunel (2024). AI and Growth: Where Do We Stand? Mimeo, June

Charles I. Jones (2026). A.I. and Our Economic Future, *NBER Working Paper No. 34779*, January

## Contact Details

Professor Nicola Dimitri  
[dimitri@unisi.it](mailto:dimitri@unisi.it)

Professor Wim Naudé  
[naude@time.rwth-aachen.de](mailto:naude@time.rwth-aachen.de)