台大經濟系 Spring, 2026
Dept. of Economics, NTU

Mini Course: Understanding Large Language Models for Applied Economics
ECON 5240
Thiemo Fetzer/黃景沂

Time and Location:

March 5, 16:30–18:00, 社科608

March 11, 16:30–19:00, 社科608

March 12, 13:30–15:00, 社科604

March 12, 16:30–19:00, 社科608

March 13, 16:30–19:00, 社科607

Office: 社會科學院 (頤賢館) 857

Office Hour: Thursdays, 11:30 – 12:15

Office Phone: (02)3366-8356

E-mail: chingihuang@ntu.edu.tw

Course Description

This is a mini course lectured by Prof. Thiemo Fetzer from Warwick University. This course introduces the core principles behind large language models (LLMs), with an emphasis on how they process information, generate language, and can be deployed locally for research use. Drawing analogies to human information processing, the course builds intuition for model behavior while clarifying key differences between statistical prediction and human reasoning. Throughout the course, concrete applications and research architectures illustrate how locally deployed LLMs can be responsibly integrated into applied economics research.

Course Objectives

This course interweave the following objectives:

- Provide a brief introduction to large language models
- Make connections to how we process information as humans and draw some similarities
- Interweave concrete applications and architectures for applied economics research
- Zoom out to provide a running commentary

References

Main Course: `https://www.trfetzer.com/ai-for-applied-economics/`

Seminar: `https://warwick.ac.uk/fac/soc/economics/research/centres/cage/manage/publications/wp733.2024.pdf`

Grades

Grades will be determined by classroom participation (50%) and a final report (50%).

The final report is due on **June 5**. Students are required to apply the methods covered in this course to an empirical application using data from an economic study of their choosing. The report must not exceed five pages. It should clearly articulate the motivation for the analysis, describe how large language models may be used to support the study, and present and discuss the empirical results.

Topics

- Introduction (3/5, 16:30–18:00)
- Seminar (3/12, 13:30–15:00): AI-Generated Production Networks: Measurement and Applications to Global Trade
- Main Course (3/11-3/13, 16:30–19:00):
  - How humans process information
  - Language Modeling Basics
  - Embeddings as workhorse for large language models
  - LLM Building Blocks
  - Logistic Regression as a Neural Network
  - Developing scalable classifiers
  - Working with LLMs

updated on Feb. 26, 2026