IESE Business School University of Navarra Center for International Finance

FUNDACIÓN RAMÓN ARECES

Deep Learning and Causal AI for Estimation – Schedule

June 2-5, 2026 IESE Madrid campus and Fundación Ramón Areces

Tuesday, June 2 – Review of LLMs and AI

IESE Business School (Camino del Cerro del Águila 3, 28023, Madrid)

Executive Building - Room Mango

08:15	**Bus to IESE** (from Collection Points 1 and 2*)
09:00-09:15	**Reception**
09:15-09:45	**Welcome**
	▪ Mr. Raimundo Pérez-Hernández y Torra, Director General, Fund. Ramón Areces ▪ Mr. Miguel Jerez, Member of the Social Sciences Advisory Board, Fund. Ramón Areces ▪ Profs. Pietro Bonetti and Miguel Duro, Academic Directors of the Seminar, IESE Business School
09:45-10:45	**Part I: Foundation Models and Neural Networks (i)**
	These lectures review the basic building blocks of a neural network and how to fit networks. They then illustrate these ideas in the context of Large Language Models and the Transformer network architecture. Coding sessions will provide hands-on examples of how to work with LLMs and AI models. Throughout, we discuss economic applications of the methods.
	▪ Prof. Stephen Hansen
10:45-11:15	**Coffee Break** (Hall Rooms Mango and Sener)
11:15-12:15	**Part I: Foundation Models and Neural Networks (ii)**
	▪ Prof. Stephen Hansen
12:15-13:15	**Part I: Foundation Models and Neural Networks (iii)**
	▪ Prof. Stephen Hansen
13:30-14:30	**Lunch** (Executive Dining Room)
14:45-15:45	**Part II: Fine-Tuning LLMs (i)**
	These lectures discuss how to adapt pre-trained language models to economic measurement problems, including sentiment and policy uncertainty. We compare the performance of different methods in concrete settings.
	▪ Prof. Stephen Hansen
15:45-16:45	**Part II: Fine-Tuning LLMs (ii)**
	▪ Prof. Stephen Hansen
17:00	**Bus to Hotel** (to Collection points 1 and 2*)

Wednesday, June 3 – Causal AI

IESE Business School (Camino del Cerro del Águila 3, 28023, Madrid)
Executive Building – Room Mango

08:45	**Bus to IESE** (from Collection Points 1 and 2*)
09:30-10:30	**Part II: Fine-Tuning LLMs (iii)**
	▪ Prof. Stephen Hansen
10:30-11:00	**Coffee Break** (Hall Rooms Mango and Sener)
11:00-12:00	**Part III: Inference for AI-Generated Regressors (i)**
	These lectures discuss the problem of using AI-generated regressors in downstream regression models with a focus on inference. This problem is central to causal inference with text. We cover the data science literature that relies on the existence of a validation sample before introducing new methods that deal with the empirically relevant case of limited validation data.
	▪ Prof. Stephen Hansen
12:15-13:15	**Part III: Inference for AI-Generated Regressors (ii)**
	▪ Prof. Stephen Hansen
13:30-14:30	**Lunch** (Executive Dining Room)
14:45-15:45	**Part III: Inference for AI-Generated Regressors (iii)**
	▪ Prof. Stephen Hansen
15:45-16:45	**Part III: Inference for AI-Generated Regressors (iv)**
	▪ Prof. Stephen Hansen
17:00	**Bus to Hotel** (to Collection points 1 and 2*)

**** Collection Points 1 and 2:***

Tuesday, June 2:

- 8:15 - Collection Point 1: Calle de Zurbano, 79-81, Chamberí, 28003 Madrid
- 8:25 - Collection Point 2: Calle Arcipreste de Hita, 10, Chamberí, 28015 Madrid (entrance Exe Moncloa Hotel)

Wednesday, June 3:

- 8:45 - Collection Point 1: Calle de Zurbano, 79-81, Chamberí, 28003 Madrid
- 8:55 - Collection Point 2: Calle Arcipreste de Hita, 10, Chamberí, 28015 Madrid (entrance Exe Moncloa Hotel)

Thursday, June 4 – The revolution of AI in solving structural models

IESE Business School (Camino del Cerro del Águila 3, 28023, Madrid)
Executive Building - Room Mango

08:45	**Bus to IESE** (from Collection Points1 and 2*)
09:30-10:30	**Part I. Deep equilibrium networks (i)**
	These lectures introduce the problem of solving dynamic programming problems when the dimensionality is high, a common problem in finance and economics. It proposes deep equilibrium networks as a way to cope with this "curse of dimensionality" using deep learning techniques.
	▪ Galo Nuño
10:30-11:00	**Coffee Break** (Hall Rooms Mango and Sener)
11:00-12:00	**Part I. Deep equilibrium networks (ii)**
	▪ Galo Nuño
12:15-13:15	**Part I. Deep equilibrium networks (iii)**
	▪ Galo Nuño
13:30-14:30	**Lunch** (Executive Dining Room)
14:45-15:45	**Part II. Deep surrogates (i)**
	Estimating complex models in finance and economics often requires solving a model for different sets of parameters many times. To speed up this process, specially when the number of parameters is large, we introduce the concept of deep surrogates: those are deep learning approximations of the model that can be easily simulated for different sets of parameters.
	▪ Galo Nuño
15:45-16:45	**Part II. Deep surrogates (ii)**
	▪ Galo Nuño
17:00	**Bus to Hotel** (to Collection points 1 and 2)
20:30	**Gala Dinner – Merci Restaurant**
	C. del Conde de Xiquena, 3, Centro, 28004 Madrid

Collection Points 1 and 2:

- 8:45 - Collection Point 1: Calle de Zurbano, 79-81, Chamberí, 28003 Madrid
- 8:55 - Collection Point 2: Calle Arcipreste de Hita, 10, Chamberí, 28015 Madrid (entrance Exe Moncloa Hotel)

Friday, June 5 – Practitioners sessions

Fundación Ramón Areces (Calle Vitruvio 5, 28006, Madrid)

Auditorium ***(No Bus Service, transfer by own means)***

09:00-09:15	**Reception and Welcome**
	▪ Mr. Raimundo Pérez-Hernández y Torra, Director General, Fund. Ramón Areces ▪ Mr. Miguel Jerez, Member of the Social Sciences Advisory Board, Fund. Ramón Areces
09:15-10:30	**From Machine Learning to Generative AI: Lessons, Trade-offs, and Open Challenges at BBVA**
	This talk shares BBVA's journey from traditional machine learning to the adoption of generative AI at scale. It explores what has worked, what has not, and the organizational and technical trade offs that have shaped our approach. Beyond successes, we will discuss the unresolved challenges, including integration, governance, and strategic decision making under uncertainty, that continue to define the path forward for large organizations.
	▪ Jon Ander Beracoechea, Chief Scientist, BBVA
10:30-11:45	**From Prediction to Action: Deploying AI Under Real World Constraints**
	Recent advances in deep learning and causal AI have significantly expanded the capabilities of data-driven models across disciplines. However, the transition from high-performing models to reliable, deployable systems remains one of the most challenging gaps in practice—particularly in safety-critical and constrained environments. *This session presents a practitioner perspective on deploying AI in real-world systems, drawing on experience across aerospace, defense, and autonomous systems. Unlike controlled academic settings, these domains are characterized by incomplete data, dynamic and adversarial environments, strict computational limitations, and strong requirements for traceability, certification, and trust.* *Through a series of real-world case studies—including navigation in GNSS-denied environments, autonomous systems, and inspection applications—the talk explores what breaks when AI is exposed to operational conditions, and what design principles are required to ensure robustness and reliability.* *The session also highlights the limitations of purely correlation-based approaches in non-stationary environments and discusses how causal reasoning and model interpretability can contribute to more resilient decision-making systems.* *Overall, the talk aims to bridge the gap between academic advances and industrial deployment, offering insights into how AI can move from prediction to action under real-world constraints.*
	▪ Daniel Martínez Bastida, Head of AI Aerospace & Defense and Autonomous Vehicle Systems, Sener
11:45-12:15	**Photo and Coffee Break**
12:15-13:30	**Artificial Intelligence: From Fundamental to Applied Research**
	In this talk I will first introduce Artificial Intelligence, from simple algorithms to Generative Multimodal models and systems. I will then provide examples of both fundamental and applied research observed throughout my career in different industries and scenarios.
	▪ Diego Perino, Director BSC AI Institute, Barcelona Supercomputing Center

13:30-14:30	**Look Past the Prompt: LLMs in Production at Digitec Galaxus**
	In e-commerce, language is everywhere: in product descriptions, customer questions, search queries, reviews, and internal analytics. Large language models promise to turn this language into useful work, but the path from a convincing demo to a reliable production system is rarely straightforward. This talk presents how Digitec Galaxus is using LLMs as components in real workflows, from routing and answering community questions to consolidating product variants, evaluating search quality, and helping employees find the right internal dashboards. Through these examples, the talk looks past the prompt to examine the recurring production questions behind each use case: Will it work? Will it keep working? And should it work this way? The answers shape what useful AI looks like inside a large, multilingual e-commerce company.
	▪ Yabra Muvdi, Data Analyst, Digitec Galaxus AG
14:30-14:45	**Closing Speech**
	▪ Mr. Raimundo Pérez-Hernández y Torra, Director General, Fund. Ramón Areces ▪ Mr. Miguel Jerez, Member of the Social Sciences Advisory Board, Fund. Ramón Areces ▪ Profs. Pietro Bonetti and Miguel Duro, Academic Directors of the Seminar, IESE Business School
14:45	**Spanish Wine at Fundación Ramón Areces**