Distributed Artificial Intelligence and Intelligent Agents

Course info

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Course info

Coordinator&lecturer

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Assignments and project responsible

- Annysia Glynis Sazon Dupaya - (Course assistant)

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Written examination (4.5 p.)

January 9 at 14-18
Registration at least 21 days before exam period

Homework and project assignments (3 p.)

Schedule

- Allocation of lectures and tutorials to scheduled time-slots for :
  - Lectures:
    - October 27, 28 31, November 4, 6, 12, 14, 17 (recorded video), 19, 25, 27
    - December 2
  - HW Tutorials (mainly online):
    - November 5, 12, 18, 26
  - Reserved date:
    - December 4

Homework

There are 3 Homework with deadlines (very preliminary).

Start Date	Due Date	Description
2025-11-04	2025-11-11	Homework 1
2025-11-12	2025-11-19	Homework 2
2025-11-19	2025-11-26	Homework 3
2025-11-26	2025-12 -21	Project

The Homework and project must be done by groups of 3 students.

Mini-Project&Quizzes

Project

Size of the mini-project

Bigger than HW assignment

Topic

You are supposed to design an agent system for a suggested specification.

Quizzes

Must be done individually in the Icarus system

- https://eit.icarus.education/courses/autonomous-multi-agent-systems/

Homework and project bonus points (preliminary)

1. Delivering each homework and a project in due time gives 1 bonus point (this assumes that all Homework are approved by TA). For approval, if in the case there were small problems in the solutions, we usually give maximum one week to reflect the changes and then the bonus is recorded.
2. For each Homework and project approval from the first attempt gives 1 bonus point.
3. In case of Late Submission of any Homework, No bonus points will be awarded for the "in-time submission of homework".
4. Challenges of assignments (on time + approved from first time) - up to 2 points per each. If not submitted on time - no bonus for challenges
5. Challenges in project (on time + approved from first time) up to 6 points
6. Passing all quizzes gives 6 bonus points (1p for registration at Icarus + 5 for passing all quizzes). See
   - https://eit.icarus.education/courses/autonomous-multi-agent-systems/

ALL Bonus points are only valid for the first exam on January 9

Course literature

- M. Wooldridge: *An Introduction to Multi-Agent Systems*. John Wiley and Sons, Second edition (Chichester, England).
- lecture notes
- selected papers (an additional listing of literature may be provided in the course)

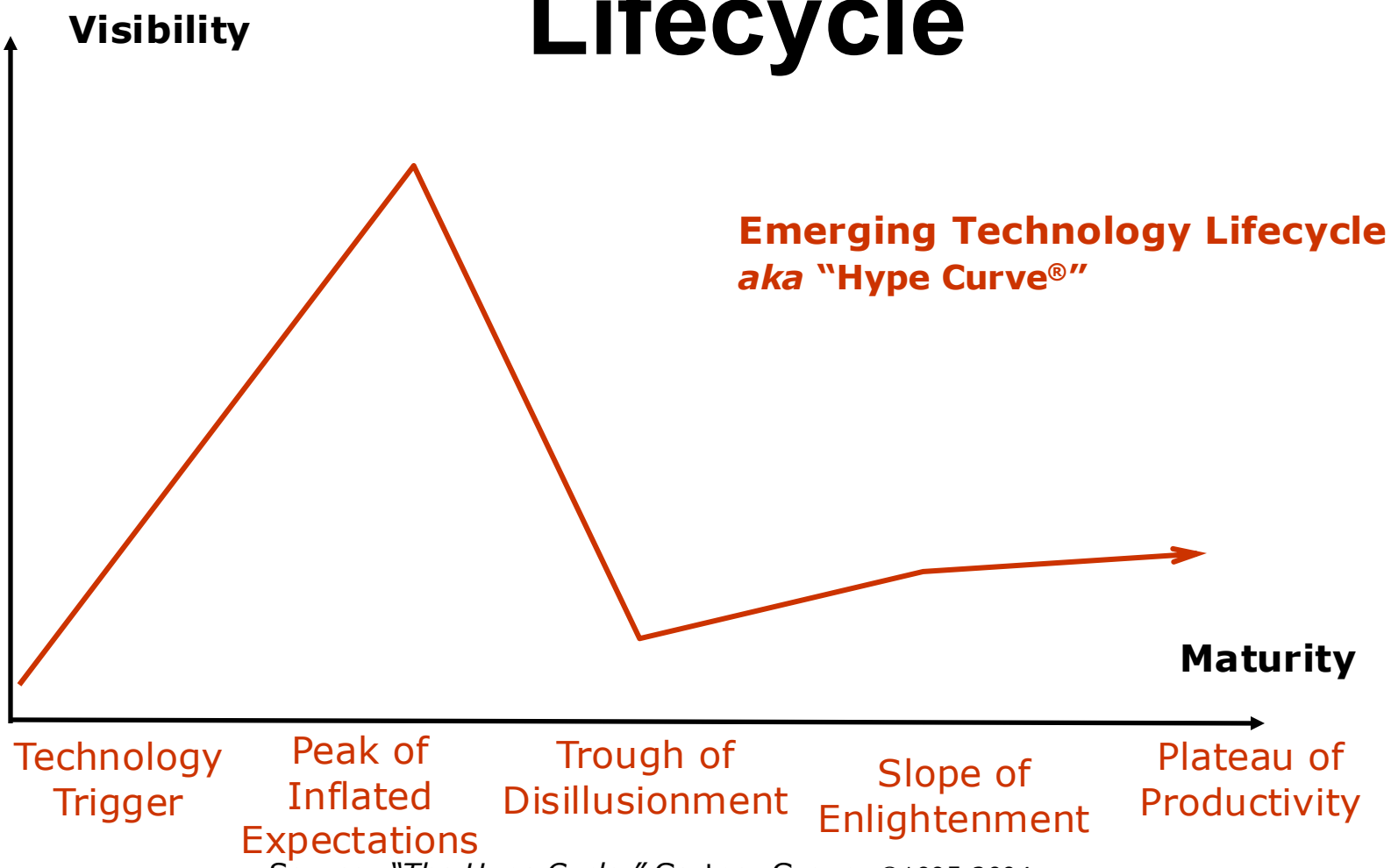
Tentative Plan

	Date	Lecture
1	27.10.2025	Introduction and Overview
2	28.10.2025	Negotiation in MAS
3	29.10..2025	Negotiation in MAS
4	04.11.2025	Negotiation in MAS
5	06.11.2025	Communication in MAS
6	12.11.2025	Communication in MAS , Coordination in MAS
7	14.11.2025	Coordination in MAS
8	17.11.2025	Multi-agent systems architectures, Agent-oriented Software Engineering (recorded video)
9	19.11.2025	Agent Theory
10	25.11.2025	Agent Theory, Agent Architectures
11	28.11.2025	Agent Architectures, Mobile Agents and other Applications
12	02.12.2025	Summary

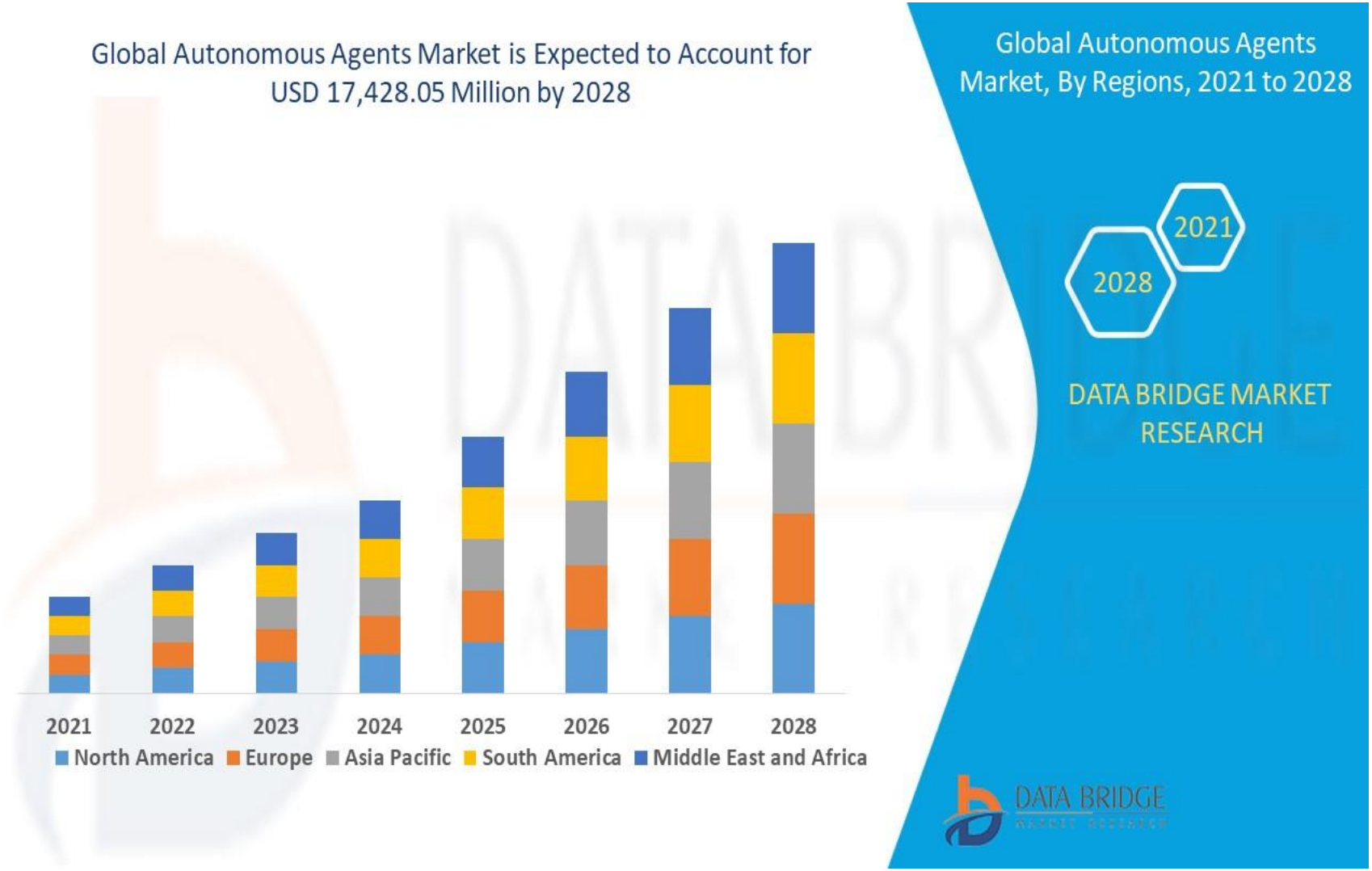
What will you learn from this course?

1. Learn what agents and multi-agent systems are (foundations of intelligent autonomous systems)
2. Have a good overview of important agent issues:
   - ⇒ Agent Coordination, Negotiation, and Communication
   - ⇒ Agent-Oriented Software Engineering
   - ⇒ Micro (intra-Agent) and Macro (agent systems) agent architectures
   - ⇒ Agent Intelligence Mechanisms
3. Get valuable hands-on experience in developing agent systems
4. Being able to distinguish hype from ”golden nuggets” in the area of Software Agents

Emerging Technology Lifecycle



Source: *"The Hype Cycle,"* Gartner Group, ©1995-2004



https://www.databridgemarketresearch.com/reports/global-autonomous-agents-market