COURSE DETAIL

MODAL LOGIC FOR STRATEGIC REASONING
Country United Kingdom - England
Host Institution Imperial College London
Program(s) Imperial College London
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Computer Science
UCEAP Course Number 178
UCEAP Course Suffix
UCEAP Official Title MODAL LOGIC FOR STRATEGIC REASONING
UCEAP Transcript Title MODAL LOGIC/REASON
UCEAP Quarter Units 5.00
UCEAP Semester Units 3.30

Course Description

This course develops intellectual and practical skills in the use of modal logics for knowledge representation and automated reasoning in Artificial Intelligence. The first part of the course focuses on general modal logic: modal and temporal operators, Kripke frames and models, and the basics of the model theory of modal logics, including the notions of satisfaction and validity, their computational complexity, as well as invariance under bisimulation. The second part of the module introduces the language of Alternating-time Temporal Logic (ATL), an extension of the temporal logics CTL and LTL, which allows for the expression of game-theoretical notions such as the existence of a winning strategy for a group of agents.

Language(s) of Instruction
English

Host Institution Course Number
COMP70031

Host Institution Course Title
MODAL LOGIC FOR STRATEGIC REASONING

Host Institution Course Details
https://www.imperial.ac.uk/computing/current-students/courses/70031/

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Computing

Course Last Reviewed
2024-2025

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