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| Τίτλος (Ελλ.) | Τίτλος (Αγγλ.) | Υπεύθυνος | Διδάσκοντες |
| Υπολογιστική Νοημοσύνη και Μηχανική Μάθηση | Computational Intelligence and Machine Learning | ΛΟΥΚΑΤΟΣ | ΛΟΥΚΑΤΟΣ, ΑΡΒΑΝΙΤΗΣ, ΦΟΥΝΤΑΣ, ΠΡΟΣΚΕΚΛΗΜΕΝΟΙ ΕΙΣΗΓΗΤΕΣ |

Περιγραφή

These lecture series are dedicated in communicating the fundamentals of Computational Intelligence and Machine Learning, with emphasis on their agricultural exploitation.

The areas being covered include but are not limited to:

Definitions for artificial intelligence, computational intelligence and machine learning. Mathematical optimization techniques. Complexity of algorithms and problems. Expert systems, decision trees and applications. Graphs and their utilization in optimization problems. Bio-inspired optimization algorithms and examples. Fuzzy logic in artificial intelligence. Neural network fundamentals and applications. Hybrid computational intelligence techniques. Common platforms and tools for machine learning. Exemplification with actual systems tailored for agricultural purposes.

| WEEK | Course Contents |
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| 1 ST | Definitions for Artificial Intelligence, Computational Intelligence and Machine Learning |
| 2 ND | Mathematical optimization techniques (e.g., linear programming) |
| 3 RD | Complexity of algorithms and problems |
| 4 TH | Expert systems, decision trees and applications |
| 5 TH | Graphs and their utilization in optimization problems |
| 6 TH | Bio-inspired optimization algorithms |
| 7 TH | Evolutionary computation examples |
| 8 TH | Fuzzy logic in artificial intelligence problems |
| 9 TH | Neural network fundamentals |
| 10 TH | Neural network application paradigm |
| 11 TH | Hybrid computational intelligence techniques |
| 12 TH | Common platforms and tools for machine learning |
| 13 TH | Experimentation with emphasis on agricultural applications |

Μέθοδος Αξιολόγησης

Assessment method: A combination of written exams and project assignments during the semester