

PH.D. IN MATHEMATICS AND COMPUTER SCIENCE

COURSE SCHEDULE

ACADEMIC YEAR 2022/2023

INDUCTIVE AND DEDUCTIVE AI TECHNIQUES: OVERVIEW, LIMITATIONS, INNOVATIVE SOLUTIONS AND REAL-WORLD APPLICATIONS

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UNIVERSITY OF CALABRIA

11 - 14 SEPTEMBER

IN RECENT YEARS, AI TECHNIQUES CAN BE ENVISIONED IN TWO MAIN CLASSES: INDUCTIVE AND DEDUCTIVE ONES. THE COURSE WILL SURVEY SOME INNOVATIVE APPROACHES IN BOTH CATEGORIES, ALSO DISCUSSING THEIR LIMITATIONS. ON THE INDUCTIVE SIDE, THE COURSE WILL MAINLY DISCUSS DEEP LEARNING (DL), A WIDELY USED APPROACH IN SEVERAL APPLICATION SCENARIOS THANKS TO ITS ABILITY IN IDENTIFYING COMPLEX RELATIONSHIPS WITHIN HUGE AMOUNTS OF DATA AND IN DETECTING LATENT PATTERNS; IN PARTICULAR, THE COURSE WILL PRESENT DL-BASED APPLICATIONS IN HEALTHCARE CONTEXTS. HOWEVER, THE LACK OF PROPER MEANS TO EXPLAIN THE DECISION-MAKING PROCESS IS STILL A RELEVANT ISSUE IN DL APPROACHES, WHILE DEDUCTIVE METHODS ARE SOMEHOW COMPLEMENTARY, AS THEY ARE OFTEN "EXPLAINABLE BY DESIGN". THE COURSE WILL HENCE PROVIDE AN OVERVIEW ON THEM, MOSTLY FOCUSING ON ANSWER SET PROGRAMMING (ASP). IN PARTICULAR, THE COURSE WILL COVER VERY RECENT ADVANCEMENTS ON INCREMENTAL EVALUATION TECHNIQUES PURPOSELY CONCEIVED TO FURTHER EXTEND ASP APPLICABILITY. INDEED, THESE NEW ASP FEATURES MAKE IT ATTRACTIVE ALSO IN REAL-WORLD CONTEXTS SUCH AS STREAM REASONING.

CLASS SCHEDULE:

MON 11/09 15:00-18:00
TUE 12/09 15:00-18:00
WED 13/09 15:00-18:00
THU 14/09 15:00-18:00

TEAMS CODE: YBWOIIG

LINK TEAMS: [HTTPS://BIT.LY/305P1CW](https://bit.ly/305p1cw)