International Polytechnic SUMMER & WINTER SCHOOLS

POLYTECH Peter the Great St.Petersburg Polytechnic University

Artificial Intelligence for All

Version **Effective from (date of when the course was developed)**	2020/1 11/09/20

Course Credits given	2 ECTS
Level/Year	Bachelor, Master and PhD students
Teaching (contact) hours	24
Total learner managed hours (incl. self-work)	48
Total hours of student learning	72

Pre-requisites	None
Alignment to graduate profiles	Bachelor (Undergraduate diploma) of Information Technology Specialist Diploma in Information Technology Master (Graduate diploma) in Information Technology
Course aim	To introduce the AI to those students who want to understand the main features of this area, without going into technical details or doing any programming. Therefore, this course is non-technical. Technical students can also take it as an introduction and the subject review.
Indicative Course content	• Meaning of AI terminology (computer vision, data science, machine learning, deep learning, etc.); • Historical review of the AI area; • Review of modern AI applications and approaches; • Disciplines about AI; • ML and Data science project workflow; • Review of Technical tools and platforms for AI; • Review of Neural Network; • Basic ideas behind Supervised and Unsupervised learning.

LEARNING OUTCOMES

On successful completion of this course students will be able to:	
1	Navigate the area of AI and Machine Learning.
2	Know the basic ideas and concepts of AI and Machine Learning.
3	Make decisions to use some specific tools and algorithms of AI and Machine Learning in real-world projects.
4	Manage their work with Data Science and Machine learning teams.

ASSESSMENTS

Basis of assessment	Achievement based assessment Final Quiz

Methods of assessment	**Learning Outcomes**	**Pass criteria (Minimum)**	**% Weightings**
Passing the final quiz	2,3,4	70%	25%
Research and presentation	1		75%

REQUIREMENTS FOR SUCCESSFUL COURSE COMPLETION

Requirements	Mark of 70% or more in every summative assessment Gain a course result of C (50%) or higher

RESULTS

Assessment results	Results for assessments are given in percentage marks
Course results	Students understood all the basic concepts of AI. They can define the Machine Learning tasks. Estimate the applicability of learned principals for specific tasks and application. Evaluate the ML algorithms results and efficiency of AI applications.

LEARNING AND TEACHING

Learning and teaching approaches	Learning process based on combining of 3 main types of materials: • Theoretical lectures (Main principles and concepts) • Application lectures (Description of how to apply learned principles and concepts) • Self education (Learning of an extra academic materials, given by lecturers) Learning process is based on presenting the materials by teachers, discussing the materials and answering to students questions
Learning and teaching resources	Manuals; use of Internet; journals; platforms and software; individual consultations with lecturers
Learner managed activities	• Completion of course work, set assignments/projects • Reading of course materials • Homework and research • Discussions with colleagues/subject matter experts • Review application of information to course work • Self-evaluation of course work • Gathering relevant contextual information/ issues/ideas to build knowledge of the subject