Course Title (in English) | Introduction to Artificial Intelligence
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Course Title (in Russian) | Искусственный Интеллект: общие аспекты
Lead Instructor(s) | Fedorov, Maxim

1. Annotation

This is an introductory course which overviews general aspects of Artificial Intelligence such as main applications, ethics, current trends and challenges etc.

The course is aimed for 1st year MSc students who would like to become familiar with AI. Although the course does not go deeply into technical details of AI (which will be fought later on by other courses in the Data Science program), it will be also of interest to those who have experience in AI but would like to understand the general role the new AI technologies play in the modern society.

During the course several topics will be discussed:
- history of the subject;
- main definitions in the AI field (and related confusions);
- main areas of applications of AI;
- current trends;
- ethical aspects of AI and different approaches to the problem;
- sustainable elopement of AI;
- agendas of international organisation which are active in the area (ISO, UNESCO, IEE etc);
- AI strategies of different countries;
- social aspects of AI

Course Prerequisites

Students should have basic knowledge of statistical analysis, programming and numerical math.

2. Structure and Content
Course Academic Level

Master-level course suitable for PhD students

Number of ECTS credits

3

<table>
<thead>
<tr>
<th>Topic</th>
<th>Summary of Topic</th>
<th>Lectures (# of hours)</th>
<th>Seminars (# of hours)</th>
<th>Labs (# of hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>An overview of AI</td>
<td>history of the subject; main definitions; main areas of applications of AI</td>
<td>2</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>sustainable development of AI</td>
<td>ethical and social aspects of AI; main threats associated with AI (both real and imaginary); main challenges and future trends.</td>
<td>2</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>global strategic AI-related activities</td>
<td>an overview of national AI strategies of different counties; an overview of main regulatory documents and policies associated with AI; AI-related activities of ISO, UNESCO and IEEE as well as other organisations</td>
<td>1</td>
<td>6</td>
<td></td>
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3. Assignments

<table>
<thead>
<tr>
<th>Assignment Type</th>
<th>Assignment Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essay</td>
<td>An essay on student’s personal view on ethical and social aspects of AI technologies</td>
</tr>
<tr>
<td>Final Project</td>
<td>An independent project on investigation of quality of a chosen AI tool where quality means a combination of robustness, applicability and user experience. A brief report should be given for every project.</td>
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4. Grading

Type of Assessment

Graded

Grade Structure

<table>
<thead>
<tr>
<th>Activity Type</th>
<th>Activity weight, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance</td>
<td>25</td>
</tr>
<tr>
<td>Essay</td>
<td>25</td>
</tr>
<tr>
<td>Final Project</td>
<td>25</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25</td>
</tr>
</tbody>
</table>

A: 86
B: 76
C: 66
D: 56
E: 46
F: 0

5. Basic Information
Attendance Requirements

Mandatory

Maximum Number of Students

<table>
<thead>
<tr>
<th>Overall:</th>
<th>50</th>
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<tbody>
<tr>
<td>Per Group (for seminars and labs):</td>
<td>50</td>
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</table>

Course Stream

Sector

Course Delivery Frequency

Every year

Students of Which Programs do You Recommend to Consider this Course as an Elective?

<table>
<thead>
<tr>
<th>Masters Programs</th>
<th>PhD Programs</th>
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</thead>
<tbody>
<tr>
<td>Data Science</td>
<td></td>
</tr>
<tr>
<td>Information Science and Technology</td>
<td></td>
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</tbody>
</table>

Course Tags

Math
Programming

6. Textbooks and Internet Resources

7. Facilities

8. Learning Outcomes

**Knowledge**

After the course the student will get general understanding of:
- history of the subject;
- current trends;
- ethical aspects of AI and different approaches to the problem;
- sustainable elopement of AI;
- agendas of international organisation which are active in the area (ISO, UNESCO, IEE etc);
- AI strategies of different countries;
- social aspects of AI
- main definitions in the AI field;
- main areas of applications of AI;

**Skill**

The student will be aware about main accepted definitions of AI-related terms

**Experience**

The student will become experienced with modern policies and documents regulating AI and related technologies

Do you want to specify outcomes in another framework?

Knowledge-Skill-Experience is good enough

9. Assessment Criteria

Select Assignment 1 Type

Final Exam
Assessment Criteria for
Assignment 1

understanding of main topics of the course

10. Additional Notes