**HSE SUMMER UNIVERSITY 2018**

**Introduction to Artificial Intelligence: Methods, Models, Algorithms**

|  |  |
| --- | --- |
| Course objectives: | * To familiarize with the basic concepts and applications of Artificial Intelligence
* (optional) To implement AI programming project
 |
| Prerequisites: | * General understanding of Math, Logic, Calculus, Probability Theory
* (optional) C/C++ or Python programming skills
 |
| Course outline: | * Introduction to AI (history, state-of-the-art, milestone projects and achievements)
* Knowledge Representations and Reasoning
* Machine Learning: Supervised and Unsupervised Learning
* Machine Learning: Neural Networks
* Heuristic Search
* Pathfinding and Task Planning
 |
| Tentative Class Schedule: | * July 16th 2018 – July 28th 2018 (two weeks)
* 4 academic hours per session twice a week
* (16 contact hours + 36 hours of self studies)
 |
| Final Grade: | * 2 Credits based on attendance and participation in at least one major activity (either small programming project or research presentation)
 |
| Course Materials: | * Artificial Intelligence: A Modern Approach (3rd Edition) by Stuart Russell and Peter Norvig, 2010
* Artificial Intelligence: Structures and Strategies for Complex Problem Solving (6th Edition) by George F. Luger, 2009
* Introduction to Artificial Intelligence (2nd Edition) by G.S. Osipov, 2013 (in Russian)
 |
| Lecturers(also see below) | * Konstantin Yakovlev
* Alexander I. Panov
 |

**Lecturers**

|  |  |
| --- | --- |
| Konstantin YakovlevD:\ISA 2017\_profile\yakovlev-135-180.png | * Lead researcher of Federal Research Center “Computer Science and Control” of Russian Academy of Sciences,
* Lecturer of the department “Intelligent Technologies for Systems Analysis and Control” of Computer Science Faculty of National Research University “Higher School of Economics”,
* Ph.D. in theoretical computer science,
* Member of the Scientific Council of the RAAI – Russian Association for Artificial Intelligence <http://www.raai.org/>

<https://www.hse.ru/staff/yakovlev-ks>  |
|  |  |
| Alexander I. Panov&Pcy;&acy;&ncy;&ocy;&vcy; | * Senior researcher of Federal Research Center “Computer Science and Control” of Russian Academy of Sciences,
* Lecturer of the department “Intelligent Technologies for Systems Analysis and Control” of Computer Science Faculty of National Research University “Higher School of Economics”,
* Ph.D. in theoretical computer science,
* Member of the RAAI – Russian Association for Artificial Intelligence <http://www.raai.org/>

<https://www.hse.ru/staff/apanov>  |