**Курс лекций приглашенного профессора**

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Тема: **Machine learning - from classification to machine translation**

(Машинное обучение - от классификации к машинному переводу).

Курс лекций проводится на английском языке в рамках учебной дисциплины "интеллектуальные сетевые пространства", посещение занятий соответствующими **магистрантами групп 22508 и 22509 обязательна**.

Приглашаются все желающие.

**Расписание лекций**

Лекция 1. 16.04.2019 17:00-18:35 ауд.356

Machine learning (ML) in the context of artificial intelligence (AI)

\* introduction to the lecture series

\* main notions of AI and ML

\* challenges of AI and ML

\* history of ML and neural networks

\* basic learning approaches of machine learning systems

Лекция 2. 17.04.2019 17:00-18:35 ауд.271

Deep neural networks (NN) vs machine learning (ML)

\* neural networks as machine learning paradigm

\* basic notions of neural networks

\* generations of neural networks

\* multi-layer NN vs deep NN

\* architectures of deep NNs

\* problem areas to be solved by NNs

Лекция 3. 18.04.2019 17:00-18:35 ауд.254

Natural language processing (NLP) as part of and beyond machine learning (ML)

\* brief history of natural language processing

\* differences between languages in terms of NLP

\* the main principles of machine translation

\* language modelling

\* generations of machine translation

\* machine translation and inflected languages

\* technical process of machine translation

Лекция 4. 19.04.2019 17:00-18:35 ауд.405

Role of deep neural networks in machine translation, and the perspectives

\* neural network based natural language processing

\* neural machine translation

\* processing of rare words and named entities

\* the role of language specific information in machine translation

\* the curse of inflectedness of languages in MT

\* the role of context in MT

\* natural language understanding and MT