**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