*Межфакультетский учебный курс*

***Искусственный интеллект в здравоохранении: междисциплинарный подход***

***Lecturer: IrinaYakovleva, PhD (Sociology)***

*Преподаватель*: к.соц.н., И.В.Яковлева

*Продолжительность курса*: 24 часа

*Курс читается* ***на английском языке***

**COURSE OVERVIEW AND CONTENT**

This course is an introduction to understanding the usage and implementation of the artificial intelligence solutions within health care settings involving the frameworks of various social sciences with the specific focus on sociology. The Global strategy on digital health development relies greatly on new technologies implementation in reducing costs, preserving the quality of care and overcoming inequalities, ensuring better health and patient outcomes. Artificial intelligence proves to be one of the most promising domains.At the same time, the hype around the concept provided the avalanche of potential technical solutions, however, without proper attention to the stakeholder analysis, ethics and bioethics involved. AI is the complex intersection of various approaches such as ‘scientific’, ‘technical’ and ‘cultural’. Needless to say, AI has turned and has already outlined its development as a social phenomenon with wide social, cultural, economic and political conditions by which it is shaped.

We are going to have a look at the major concepts of AI in relation to health care settings, starting from discussing dreams and past expectations that have certain influence on our present. We will outline the ways the AI is transforming health and healthcare, and focus on the most recent approaches to care, having as the basis the understanding how digitalization has already contributed to the field. We will analyze the potential benefits of AI technologies and pay attention to the unintended consequences within the frames of the medicalization, ethics and trust.

*Данный курс предлагает разобраться в возможностях и направлениях применения технологий искусственного интеллекта в области здоровья и здравоохранения. Обсуждение вопросов применения технологий искусственного интеллекта в здравоохранении занимает важное место в профессиональном и междисциплинарномдиалоге. Глобальная стратегия цифрового здравоохранения возлагает большие надежды на цифровые технологии в плане снижения стоимости помощи при одновременном сохранении ее качества, также дополнительно акцентируется потенциал снижения неравенства в доступе к медицинским ресурсам и улучшению здоровья населения. Технологиям искусственного интеллекта отводится важная роль в достижении этих целей. Важно отметить, что повышенное внимание к технологиям и возможностям применения ИИ требует внимания с точки зрения междисциплинарного анализа с учетом того, что применение ИИ уже становится социальным феноменом, который следует рассмотреть с точки зрения концепций неравенства, политики применения алгоритмов и доступа к персональным данным, порождением новых социальных практик. Курс предлагает рассмотреть основные концепты и подходы к ИИ, особенности применения в области здоровья и здравоохранения, потенциальные возможности и нежелательные эффекты с вниманием к феномену медикализации, с акцентом на проблемы этики и доверия как ключевого аспекта.*

**Overview of Classes**

**Week 1.** Introduction to the course.

Artificial Intelligence in healthcare: why study as a multidisciplinary field

**Week 2:** Artificial Intelligence: understanding different approaches

**Week 3.** Artificial Intelligence: sociological perspective

**Week 4.**Digitalization of Healthcare and medicine before the AI

**Week 5.** Artificial Intelligence and concept of life medicalization

**Week 6.** Artificial Intelligence in Healthcare: potential benefits vs. unintended consequences

**Week 7.** Artificial Intelligence and the issue of trust

**Week 8.** Health care AI: from strategy to regulations

**Week 9.** Health literacy vs AI health literacy

**Week 10.** Innovations in healthcare and medicine: the ethics

**Week 11**. Artificial Intelligence and public sector considerations

**Week 12.** Final Colloquium

**FINAL COLLOQUIUM**:

1. What is artificial intelligence?
2. What is machine learning? What is hypothetical AI?
3. What is technochauvinism?
4. What are the major domains of AI?
5. Define amplifying intelligence and augmented intelligence.
6. Outline the major AI methods and the most widespread applications.
7. Who are the major stakeholders of AI implementation in healthcare?
8. AI and reliance on data: what are the major difficulties?
9. What are the peculiarities of AI implementation in healthcare?
10. What are the major aims of healthcare?
11. What is the major shift in understanding the change of healthcare concept?
12. What are the criteria that drive technology innovation?
13. Explain medicalization of life as an approach.
14. Why do we need AI in healthcare?
15. What are the major approaches to understanding AI?
16. What so the terms ‘learning’ and ’intelligence’ mean in relation to AI?
17. What expectations of the past influence the present of AI?
18. What are the major ways the AI is changing healthcare and health?
19. What is an electronic health records? How do they affected the patient-provider relationship?
20. Proved a brief overview of the study of inequalities and AI.
21. What is the politics of algorithms, data and code?
22. What are the inequalities that are highly likely to be made more durable by AI?
23. AI as a social phenomenon: provide a brief overview of the wider social, cultural, economic and political conditions.
24. What is the application of AI in non-health care industries? Provide a brief overview.
25. Could you outline the key stakeholders of AI research and development?
26. What are the AI solutions for patients and families?
27. How could improper AI hurt patients?
28. How could improper AI hurt health systems?
29. What are typical cybersecurity vulnerabilities due to AI implementation in healthcare?
30. What is the influence of AI on human skills?
31. What are the factors to take into account for AI application evaluation?
32. What are the ways to empower patients and caregivers by AI applications?
33. What is the typical framework for AI selection for health care?