

**Artificial Intelligence in Diagnostics and Surgery Planning  
2023/2024/I.**

Practice place: Uzsoki Hospoital, Building C, Conference room;  
1145 Budapest, Uzsoki str. 29-41.

**Dates: Every 2nd Tuesday, 17:15 – 18:45 (2X45')**

**1st occasion: Brown lecture theatre, 05/09/2023 17:45-19:00**

| Week | Date          | Lecture title  |
|------|---------------|--|
| 1.   | 05/09/2023    | The Concept of Artificial Intelligence and Examples of Medical Applications – Introductory Lecture<br>Q&A  |
| 2.   | 12/09/2023    | Free   |
| 3.   | 19/09/2023    | Working Principles and Architecture of Neural Networks<br>Challenges and Solutions of Training Neural Networks   |
| 4.   | 26/09/2023    | Free   |
| 5.   | 03/10/2023    | Similarities and Differences of Architectures and Operation of the Central Nervous System and Artificial Intelligence; Lecturer: Balázs Szegedy, PhD, Research Mathematician<br>One-Dimensional Data Processing with Convolutional Neural Networks; Electrocardiogram, Audio, Speech, and Text with Artificial Intelligence                            |
| 6.   | 10/10/2023    | Free   |
| 7.   | 17/10/2023    | Text Processing, Translation, Text Generation with Artificial Intelligence; Operating Principles of ChatGPT; Transformer Networks; Reinforcement Learning<br>Two-Dimensional Image and Video Processing with Convolutional Neural Networks   |
| 8.   | 24/10/2023    | Free   |
| 9.   | 2023/ 10/ 31. | Three-Dimensional Image Processing with Convolutional Neural Networks; Structure of CT and MR Medical Images; Radiomics and Artificial Intelligence<br>Artificial Intelligence in the Practice of Radiological Diagnostics; Lecturer: Dr. Egyed Zsófia PhD, Head of Radiology Department, Uzsoki Hospital  |
| 10.  | 07/11/2023    | Free   |
| 11.  | 14/11/2023    | Operation Planning with Artificial Intelligence: Ultra-Fresh Osteochondral Allograft Donor Matching and Prosthetics Design; Lecturers: Prof. Dr. László Hangody, Dr. György Hangody<br>Practical Challenges of Collecting a Training Set: Case Study of the Training of the Ultra-Fresh Osteochondral Allograft Donor Matching Artificial Intelligence |
| 12.  | 21/11/2023    | Free   |
| 13.  | 28/11/2023    | Real-world Examples of Design and Execution of Therapy with Artificial Intelligence; Mistakes by Artificial Intelligence and their Reasons; Medical Practitioner’s Responsibility<br>The Future of Artificial Intelligence in Medicine   |
| 14.  | 05/12/2023    | Free   |
|      | 12/12/2023    | Written Exam (NET)   |
|      | 23/1/2024     | Written Exam (NET)   |