Masterclass Outline: Artificial Intelligence (AI) in Medicine

Duration: 90 minutes

Introduction (5 minutes)

- Greeting and speaker journey.
- Brief overview of the agenda and what participants can expect to learn.

Part 1: Understanding AI (20 minutes)

- What is AI? Defining it in simple terms using the Data-Information-Knowledge-Wisdom (DIKW) pyramid with an example.
- Common AI terminology: Domains of AI, Machine learning vs Deep learning, Narrow AI vs General AI, etc.
- How AI learns: Machine learning workflow, Supervised learning vs Unsupervised learning vs Reinforcement learning, Performance metrics.

Part 2: Why AI in Medicine? (10 minutes)

- Challenges in medicine – rising costs, data explosion, burnout, etc.
- Benefits of AI in medicine – optimisation, personalisation, etc.

Part 3: AI Use Cases (15 minutes)

- Overview of AI applications across medical domains: diagnostics, treatment, research, and administration.
- Few specific examples of AI in anaesthesiology.

Part 4: Generative AI and Its Medical Applications (20 minutes)

- Explaining generative AI: its ability to create new data.
- Applications of generative AI in medical imaging, drug discovery, and more.
- Introduction to prompt engineering: guiding AI systems to generate desired outputs.
- Brief live demonstration of using common user-friendly tools for medical queries and assistance illustrating how to formulate prompts and interpret AI responses.

Part 5: Ethical Issues and Challenges in AI Adoption (10 minutes)

- Discussing ethical considerations in AI: transparency, bias, privacy, accountability, etc. - emphasizing the need for responsible AI development and deployment.
- Challenges to AI adoption in medicine: regulatory hurdles, data quality, integration with existing workflows, etc.

Part 6: How to get started with AI in Medicine (5 minutes)

- Steps for healthcare professionals to engage with AI - Emphasizing the importance of continuous learning in a rapidly evolving field.
- Suggesting further learning resources to delve deeper into AI in healthcare - online courses, communities, publications, no-code AI tool (Orange Data Mining), etc. for healthcare professionals interested in AI.

Conclusion and Wrap-up (5 minutes)

- Summarizing key takeaways from the masterclass.
- Encouraging participants to explore AI further, while remaining mindful of ethical implications.

Q&A Session - Inviting questions from the audience and addressing queries related to AI in medicine.

What to expect from the masterclass:

- Understand the fundamentals of AI and its relevance to medicine.
- Explore some real-world applications of AI in medicine, especially anaesthesiology.
- Discover the latest developments in generative AI and its medical applications.
- Gain insights into common AI tools, prompt engineering, and hands-on examples.
- Gain insights into the ethical considerations and challenges of AI adoption.
- Discover the steps and resources for further learning and skill development in AI.
- Engage in a Q&A session for personalized clarifications.