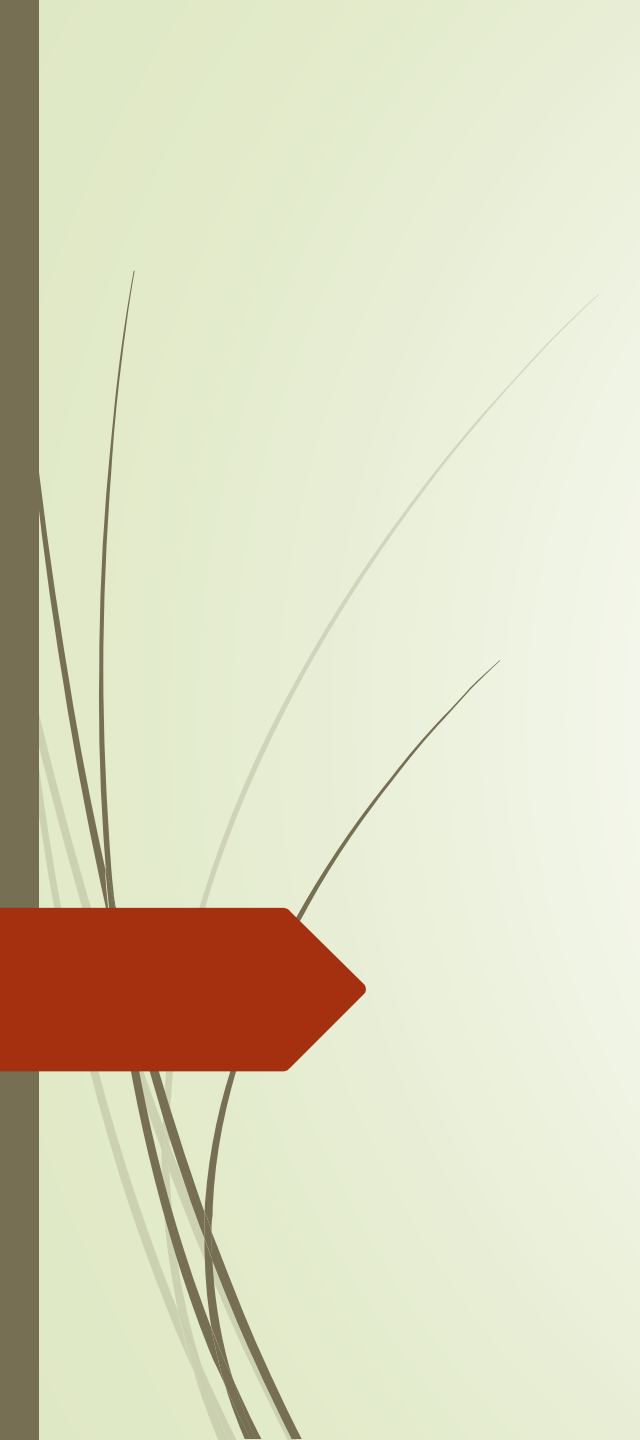




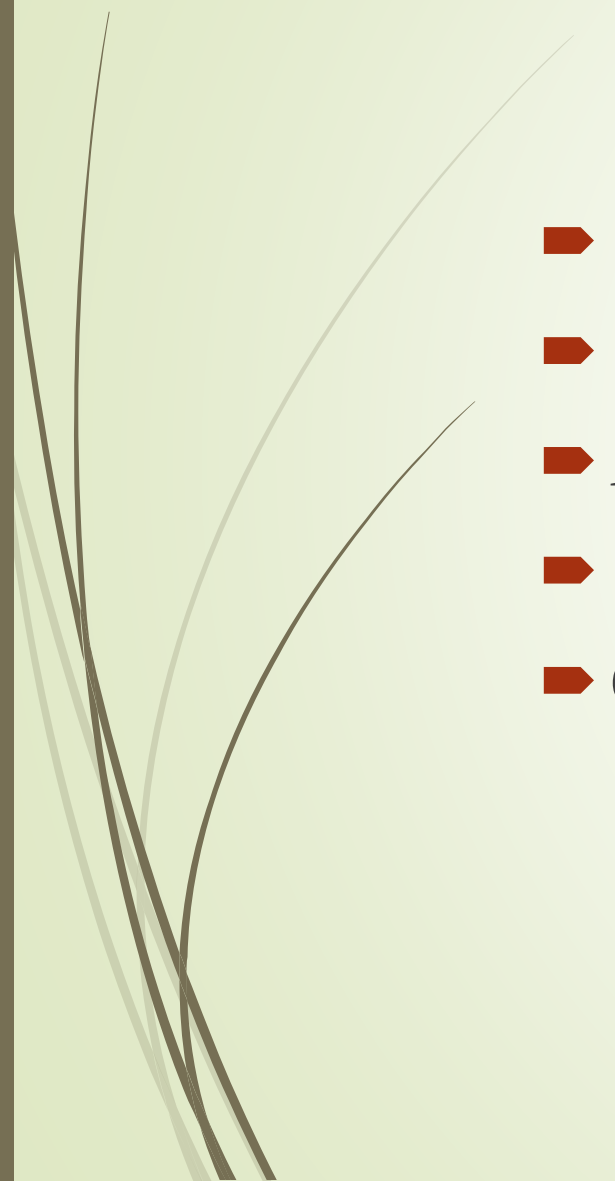
Artificial Intelligence in Obstetrics and Gynecology: Transforming Care and Outcomes

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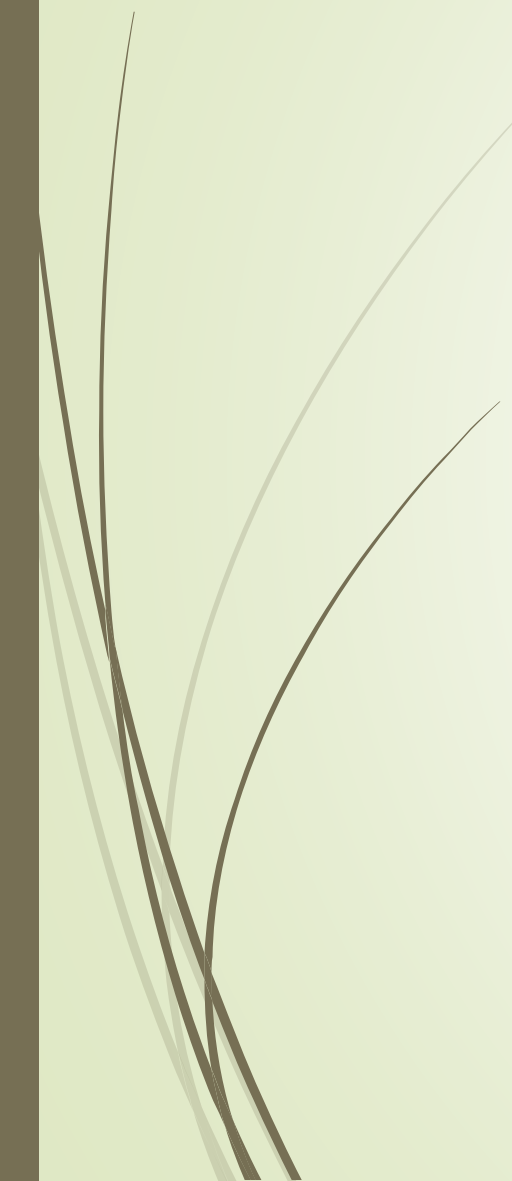


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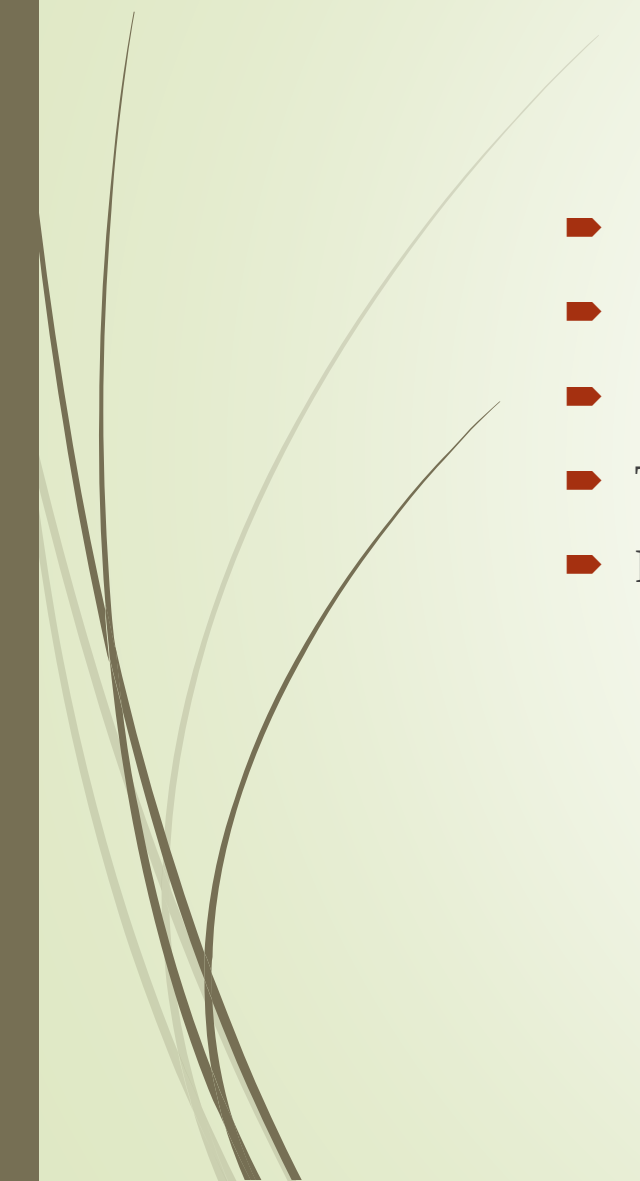


Introduction to Artificial Intelligence in Medicine

- Artificial Intelligence (AI): Simulation of human intelligence using algorithms and systems
 - Machine Learning (ML): Algorithms that learn from data to make predictions
 - Deep Learning (DL): Subfield of ML using neural networks for image and pattern recognition
 - AI in Medicine: Enables faster diagnosis, predictive modeling, and precision treatment
 - AI in OB/GYN: Enhances fetal monitoring, cancer detection, and pregnancy outcome prediction
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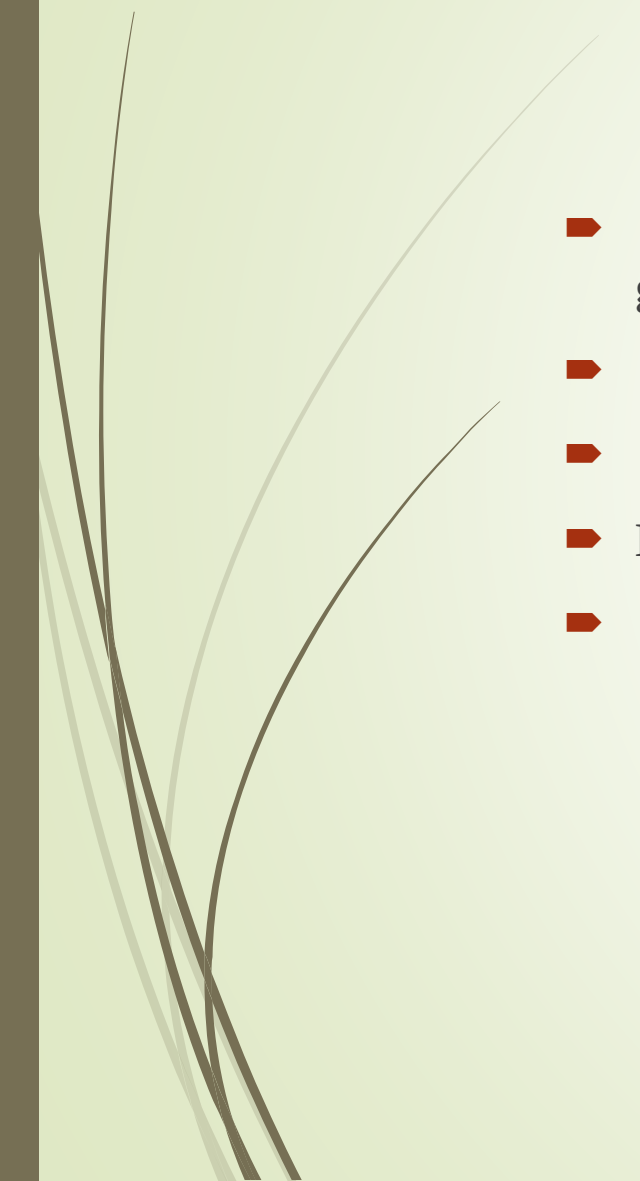


AI Applications in Gynecology

- Cancer detection: Cervical and ovarian cancer screening with AI-assisted imaging
 - Pathology analysis: Pattern recognition in histopathology slides
 - Radiology support: Automated interpretation of pelvic MRI and ultrasound images
 - Treatment planning: Predictive models for recurrence and therapy response
 - Patient management: Decision support systems for personalized care
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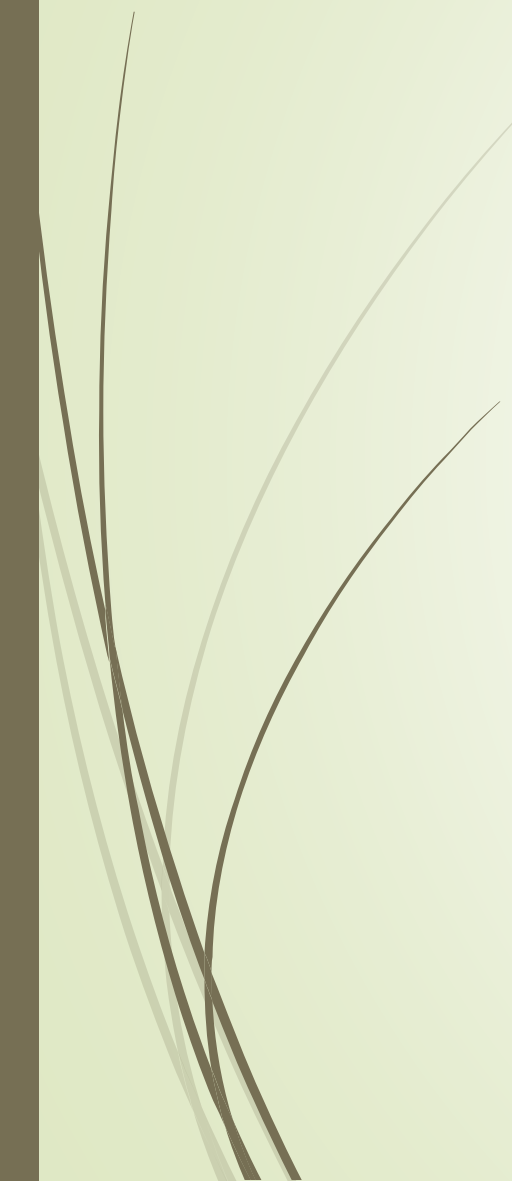


AI Applications in Obstetrics

- Pregnancy outcome prediction: Identifying risks for preeclampsia, preterm birth, and gestational diabetes
 - Fetal monitoring: Automated analysis of fetal heart rate and ultrasound imaging
 - Labor management: Predictive tools for mode and timing of delivery
 - Maternal health: Early detection of complications such as hemorrhage or sepsis
 - Precision obstetrics: Integrating AI with electronic health records for personalized care.
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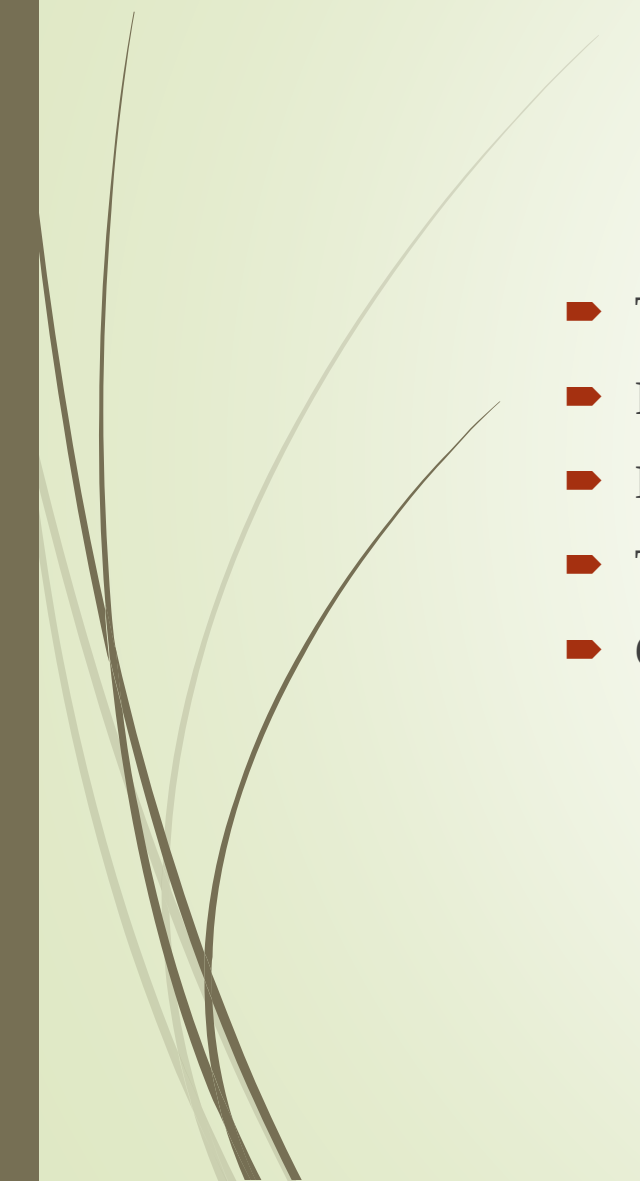


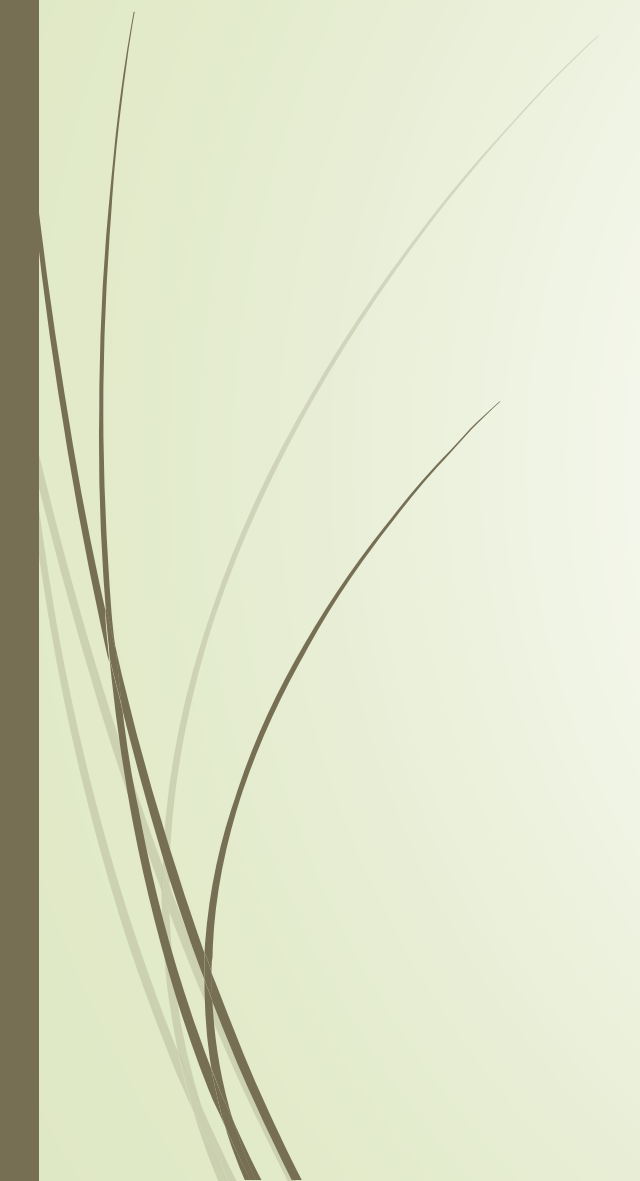
Ethical and Clinical Challenges of AI in OB/GYN

- Data privacy: Risks of sharing sensitive patient information
 - Algorithmic bias: Unequal model performance across populations
 - Lack of transparency: “Black-box” decisions with limited explainability
 - Clinical validation: Few AI tools are fully validated for real-world use
 - Integration barriers: Legal, regulatory, and acceptance obstacles
- 



Conclusion and Future Directions

- Transformative impact: AI reshapes diagnosis and management in OB/GYN.
 - Personalized medicine: Integration of AI enables tailored patient care.
 - Data standardization: High-quality datasets are crucial for reliability.
 - Transparency & ethics: Explainable and fair AI should guide decisions.
 - Collaboration: Multidisciplinary efforts drive responsible innovation.
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Thank You