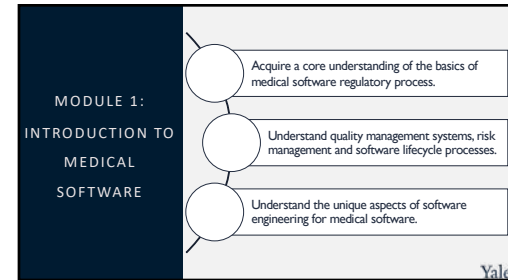




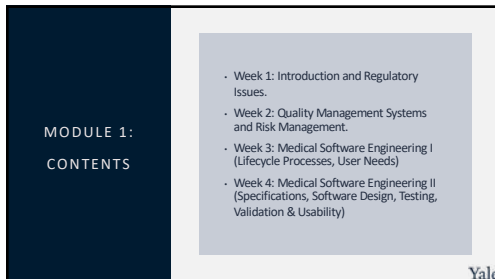
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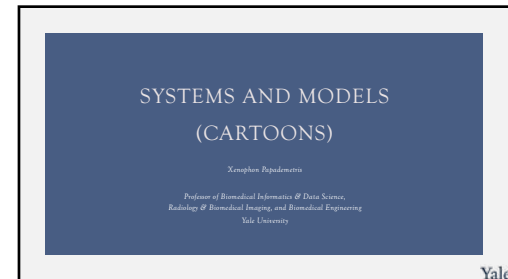
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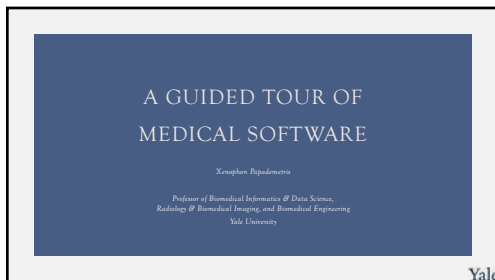
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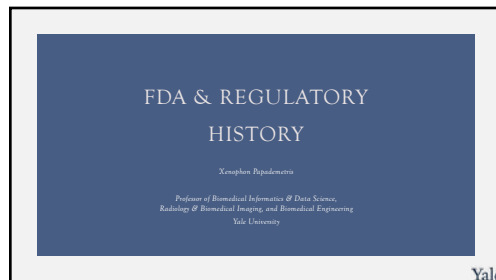
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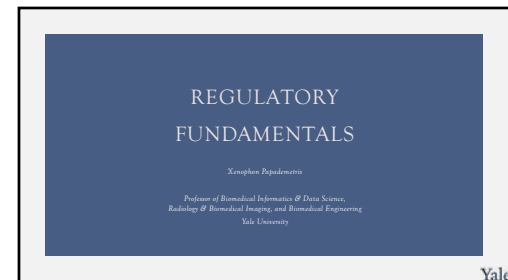
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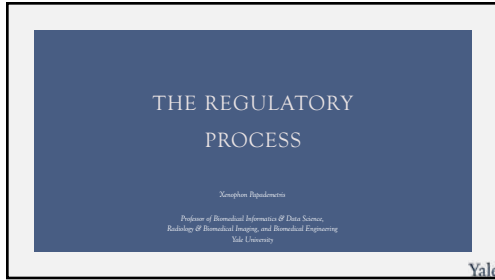
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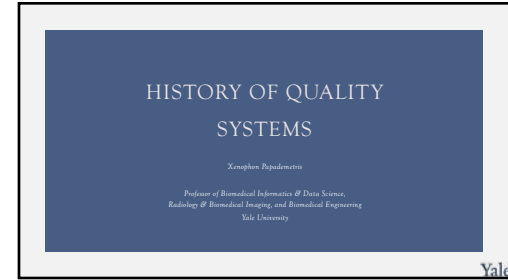
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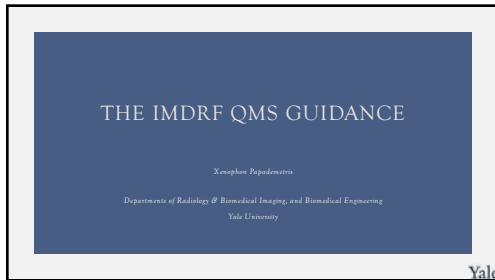
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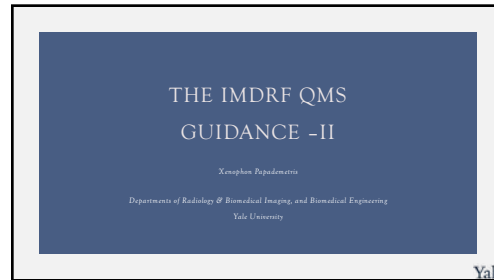
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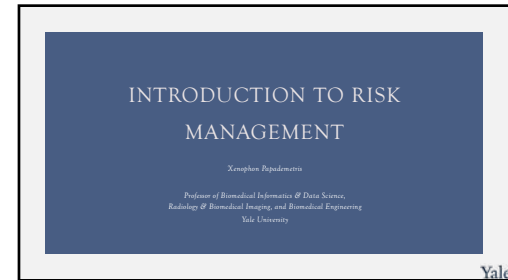
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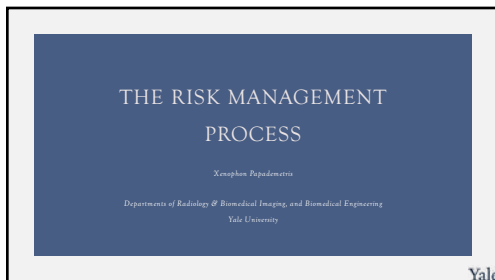
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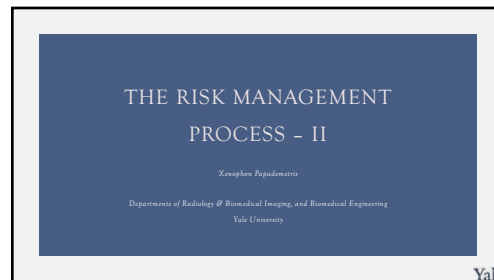
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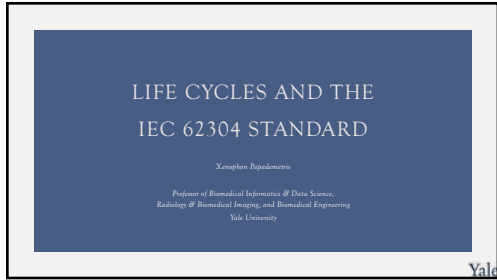
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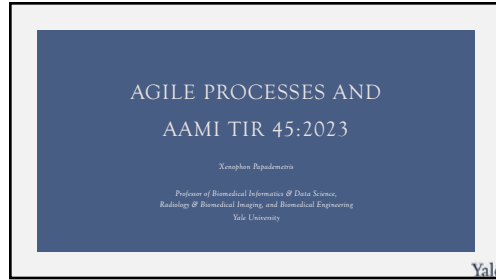
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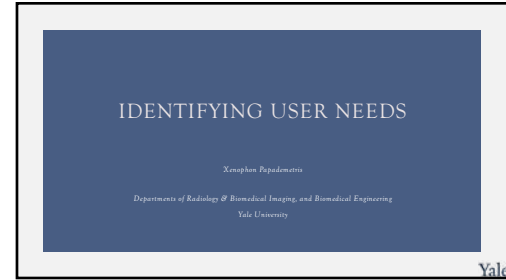
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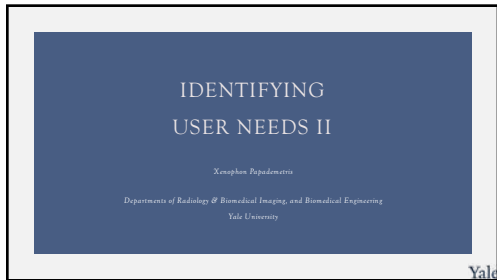
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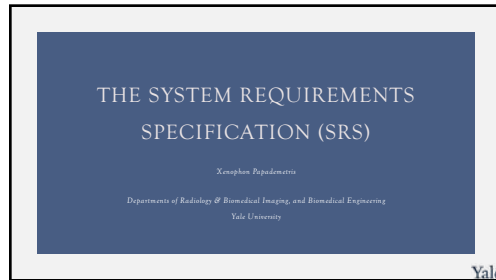
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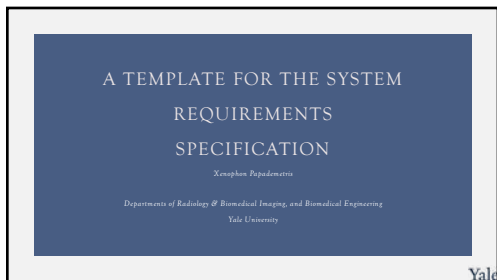
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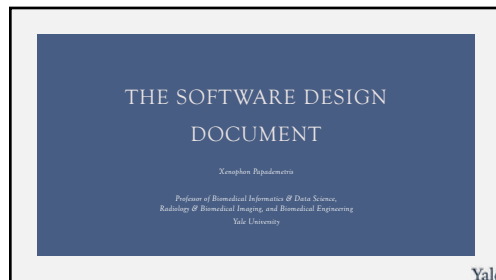
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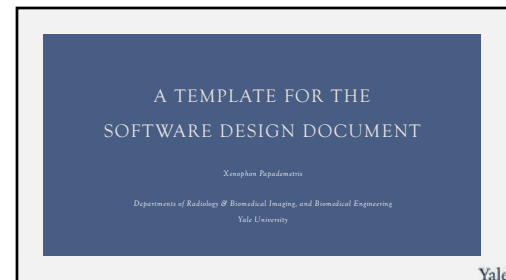
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INTRODUCTION TO SOFTWARE TESTING

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MEDICAL SOFTWARE VALIDATION

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USABILITY ENGINEERING & THE IEC 62366 STANDARD

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USABILITY ENGINEERING II: EVALUATION STRATEGIES

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Module 2: Introduction to Medical AI and ML

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MODULE 2:  
INTRODUCTION TO MEDICAL AI & ML

- Understand what AI/ML are and their role in the development of medical software.
- Understand what deep learning is and why it is the most promising ML technique.
- Understand the role and potential of generative AI in medical applications.

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MODULE 2:  
CONTENTS

- Week 5: Introduction to Machine Learning
- Week 6: Classical Machine Learning Techniques
- Week 7: Neural Networks and Deep Learning
- Week 8: Generative AI

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Week 5: Introduction to Machine Learning

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AI: HISTORY AND RELATION TO OTHER FIELDS

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INTRODUCTION TO  
PROBABILITY THEORY


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ESTIMATING PROBABILITY  
DENSITY FUNCTIONS


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INDIVIDUAL VS. GROUP  
PREDICTION


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INDIVIDUAL VS. GROUP  
PREDICTION


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MACHINE LEARNING  
WITHOUT TEARS

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Week 6: Classical Machine Learning Techniques

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Robert McDougal, PhD  
Assistant Professor of Biostatistics, and  
Biomedical Informatics & Data Science

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CONCEPTS FOR CLASSICAL  
MACHINE LEARNING


*Robert A. McDougal*  
Assistant Professor of Biostatistics and of Biomedical Informatics & Data Science  
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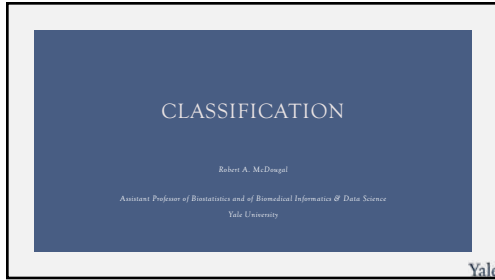
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REGRESSION

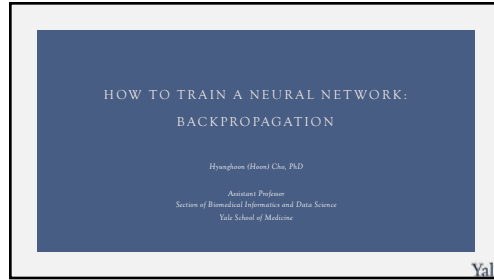
*Robert A. McDougal*  
Assistant Professor of Biostatistics and of Biomedical Informatics & Data Science  
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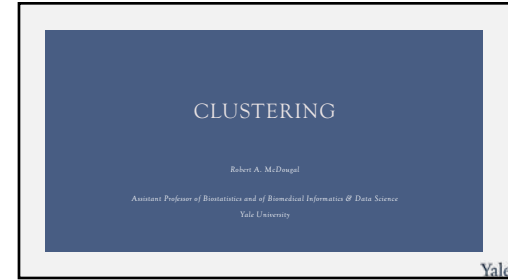
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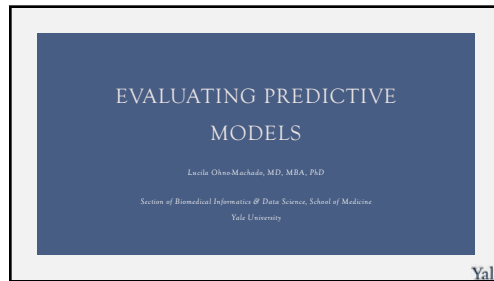
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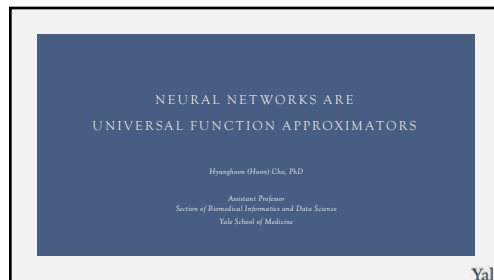
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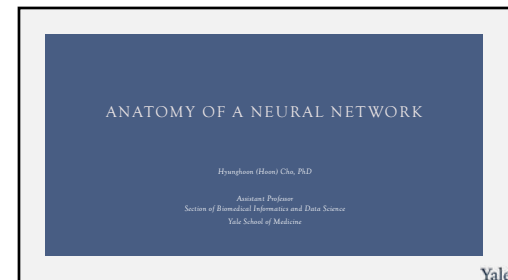
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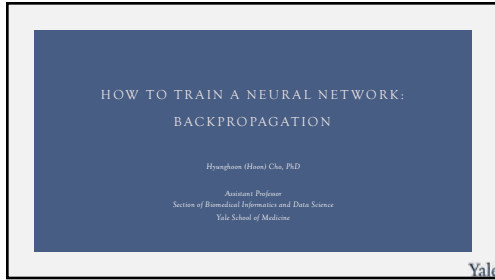
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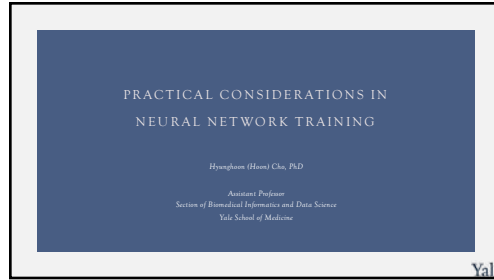
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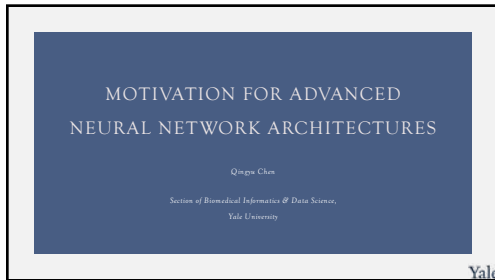
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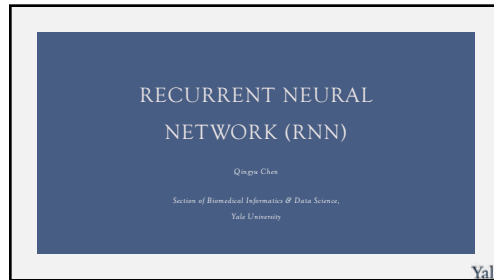
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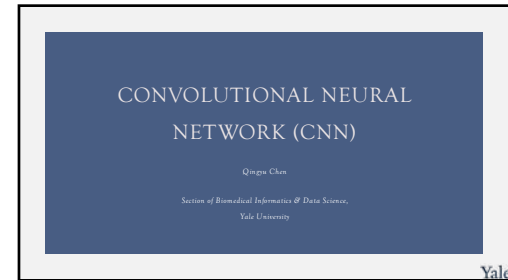
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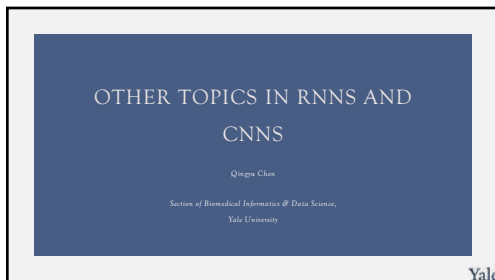
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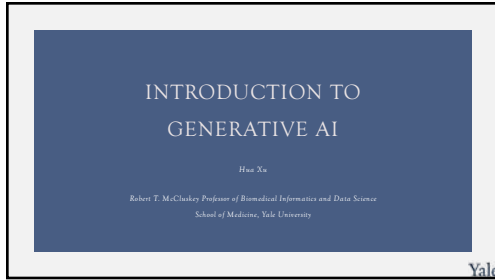
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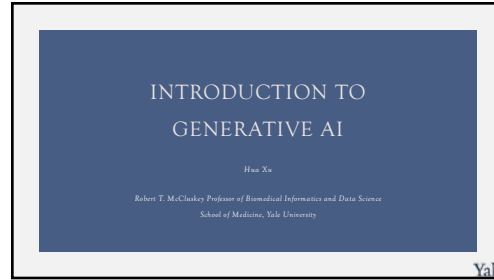
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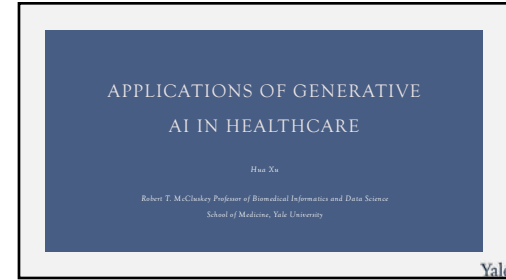
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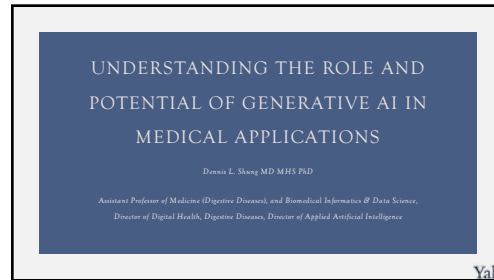
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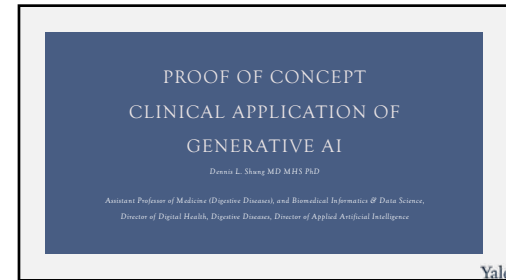
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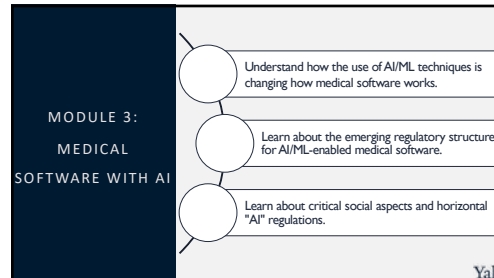
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Week 9: Regulatory Landscape for AI/ML Enabled Medical Devices

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SURVEY OF AI ENABLED  
MEDICAL SOFTWARE

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THE FDA GOOD MACHINE  
LEARNING PRACTICE GUIDANCE

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Radiology & Biomedical Imaging, and Biomedical Engineering  
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PRE-DETERMINED CHANGE  
CONTROL PLANS

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THE SINGAPORE GUIDANCE  
AND AI/ML

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Departments of Radiology & Biomedical Imaging, and Biomedical Engineering  
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RISK MANAGEMENT AND  
AAMI TIR 34971

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Week 10: Software Engineering and AI/ML

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DUAL LIFE-CYCLE PROCESSES FOR AI/ML  
ENABLED MEDICAL SOFTWARE

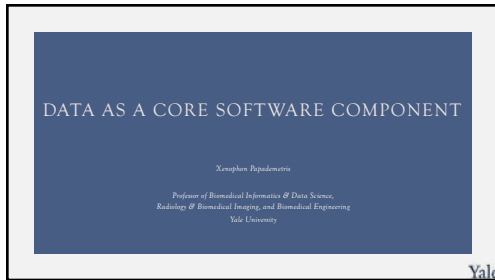
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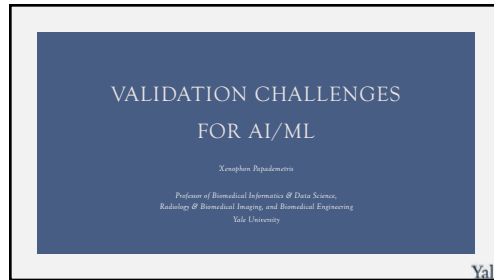
SPECIFICATIONS AND DATA  
SCIENCE CODE

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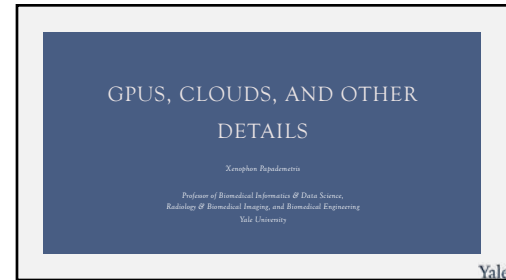
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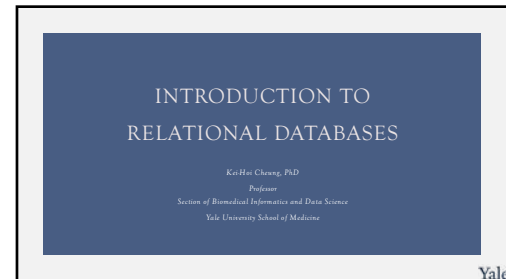
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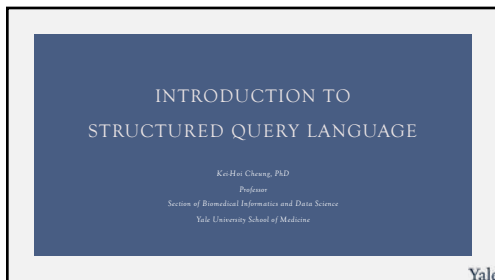
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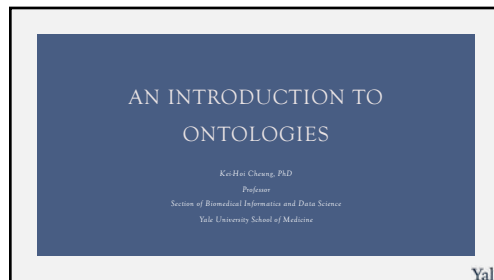
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REAL-WORLD DATA  
AND DATA-DRIVEN HEALTH IT  
APPLICATIONS

Danielle Menkes  
Associate Professor, Biomedical Informatics and Data Science  
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NAVIGATING HEALTH  
PRIVACY REGULATIONS

Danielle Menkes  
Associate Professor, Biomedical Informatics and Data Science  
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PROTECTING PRIVACY

Lucila Ohno-Machado, MD, MBA, PhD  
Section of Biomedical Informatics & Data Science, School of Medicine  
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Week 12: Cybersecurity, Horizontal Regulations, and Broader Issues

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INTRODUCTION TO CYBERSECURITY

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Radiology & Biomedical Imaging and Biomedical Engineering  
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CYBERSECURITY GUIDANCE DOCUMENTS

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Radiology & Biomedical Imaging and Biomedical Engineering  
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Alka Menon, PhD  
Assistant Professor of Sociology

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EXPLANATIONS FOR MACHINE  
LEARNING SYSTEMS

Alka V. Menon, PhD  
Assistant Professor  
Department of Sociology  
Yale University

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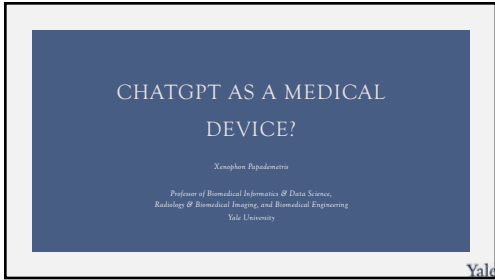
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NON-MEDICAL  
AI REGULATIONS

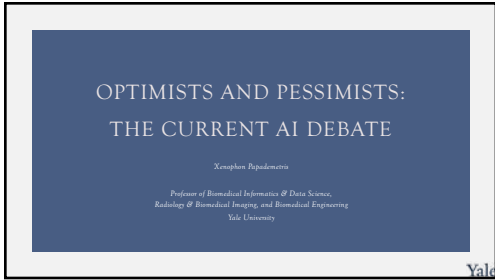
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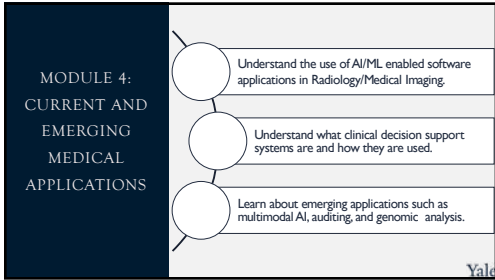
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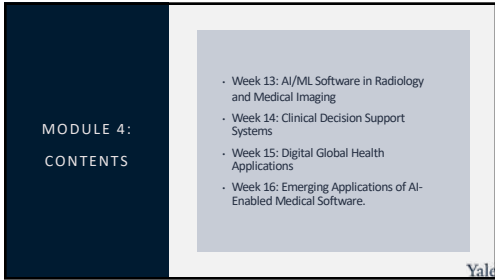
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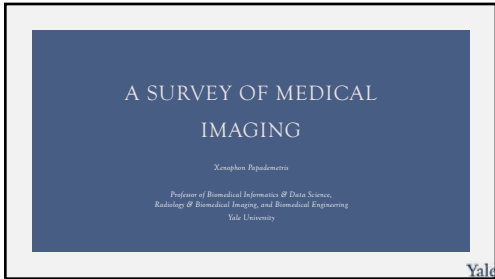
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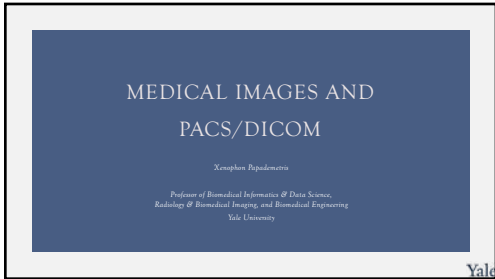
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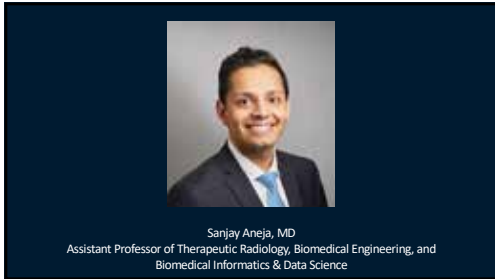
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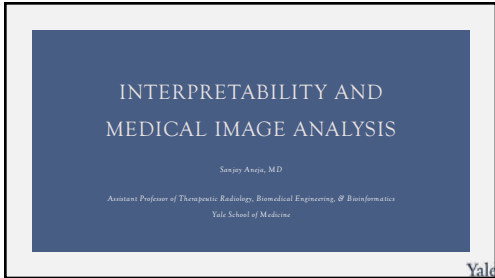
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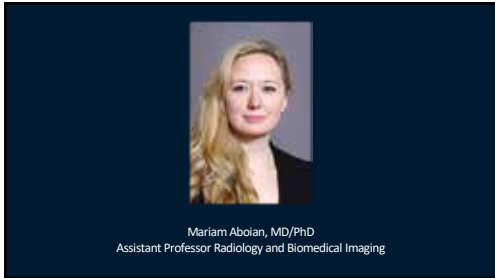
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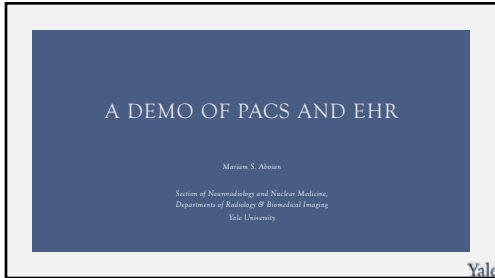
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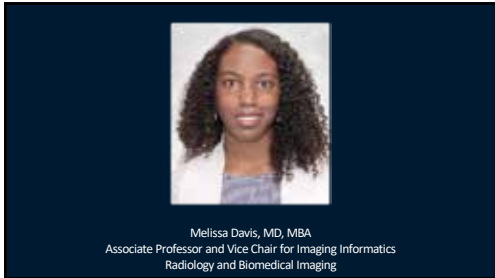
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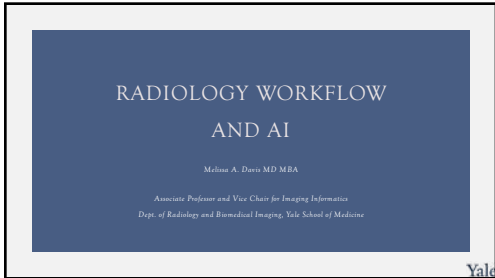
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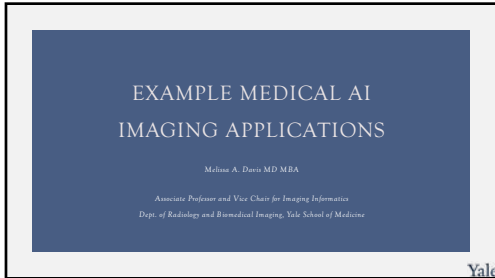
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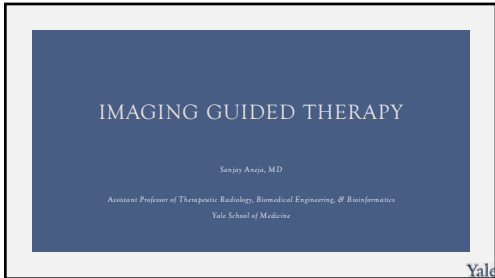
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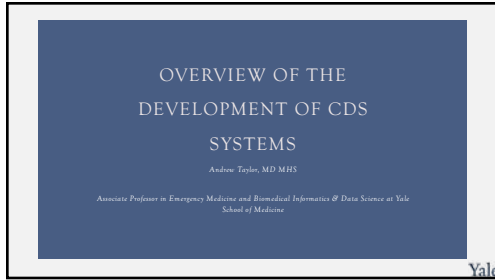
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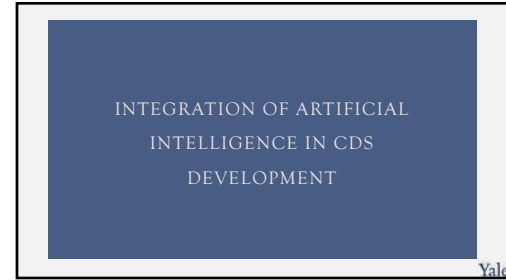
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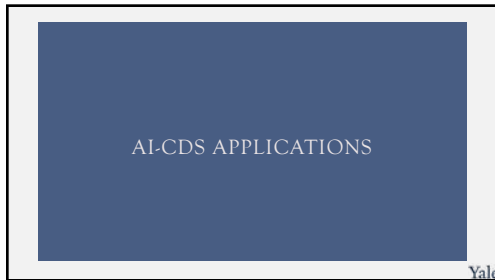
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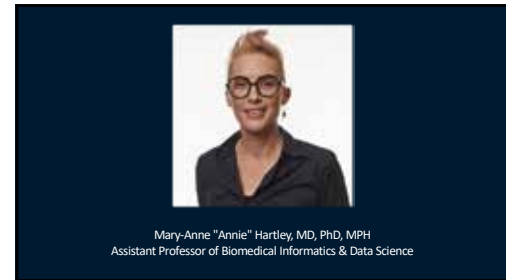
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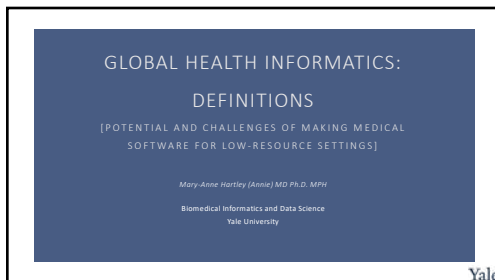
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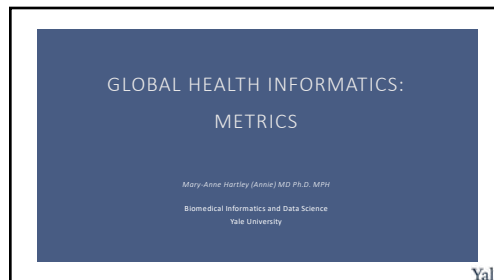
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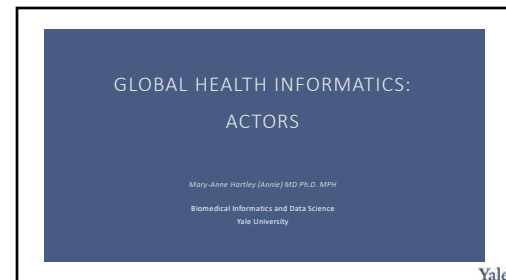
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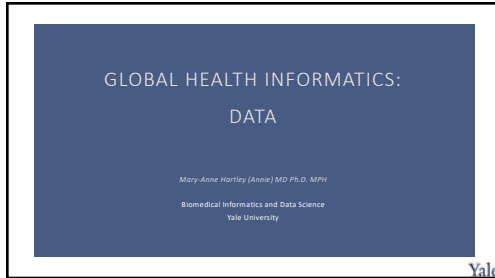
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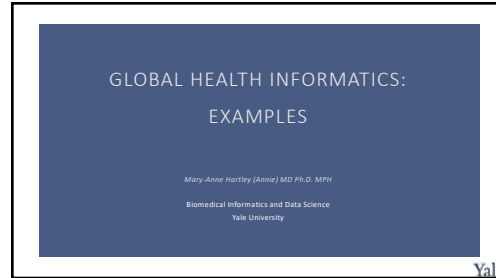
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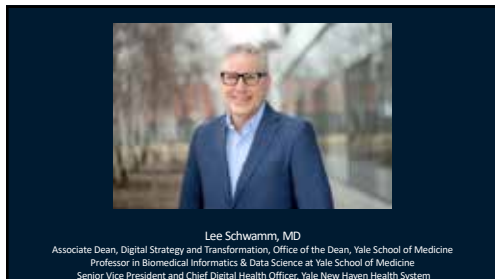
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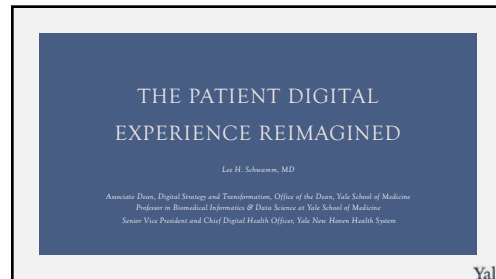
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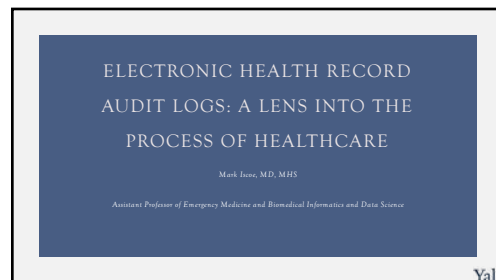
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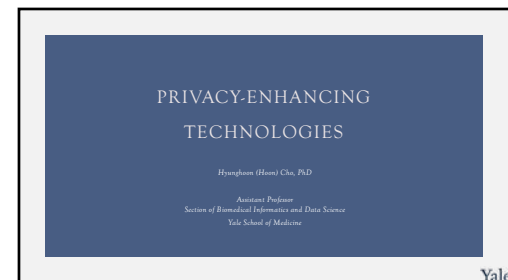
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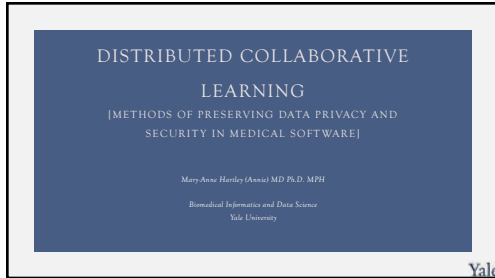
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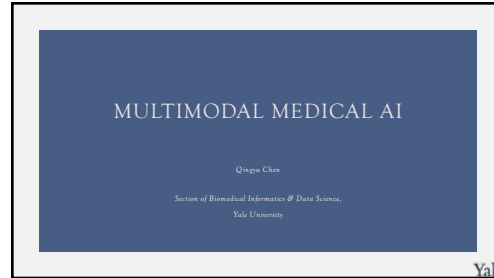
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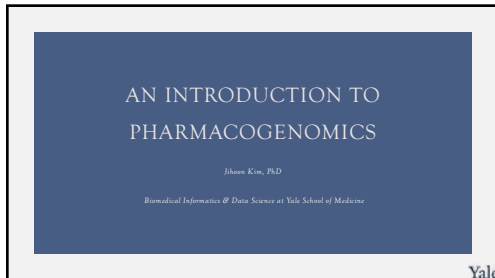
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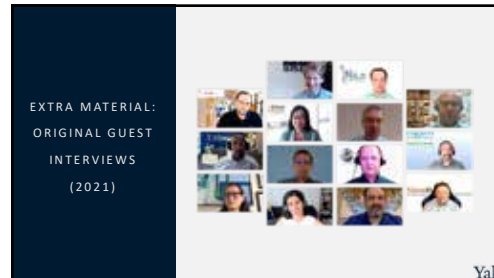
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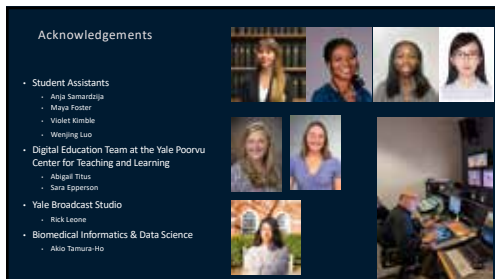
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