

CSC4050 CS capstone project information collection

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1. Name*

Shuang Li

2. How many students would you like to take?*

15

3. A brief description of the projects the students could work on*

In this comprehensive course project, students will delve into the exciting and evolving field of Artificial Intelligence (AI) for healthcare, focusing on the development of interpretable and evidence-based healthcare models. The primary objective of the project is to empower aspiring data scientists and AI enthusiasts with the knowledge and skills necessary to build models that not only harness the power of cutting-edge technology but also align with the logical reasoning employed by healthcare professionals in treatment decision-making.

Key Themes:

1. AI for Healthcare: Foundations and Challenges

Understanding the unique challenges and opportunities presented by the integration of AI in the healthcare domain.
Exploring real-world applications and case studies of AI in healthcare.

2. Interpretable Healthcare Models

Introduction to interpretable machine learning models and their significance in healthcare settings.
Hands-on exercises to implement and interpret models that facilitate transparent decision-making.
Evidence-Based Healthcare Models

Emphasizing the importance of evidence-based approaches in developing healthcare models.
Integrating clinical data and medical literature to enhance the robustness and reliability of AI models.

3. Logical Reasoning in Treatment Strategies

Bridging the gap between AI algorithms and human logical reasoning in healthcare.
Analyzing and incorporating logical frameworks to comprehend doctors' treatment strategies.

4. Requirements (e.g. html or c++ skills)*

Basic understanding of machine learning concepts. Familiar with python.

5. Other comments or suggestions

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