# 25882 AI in Investment and Risk Management
# Assessment 2 Hackathon and Coding Challenge

## Objective

The purpose of this hackathon is to empower you to develop an original Python-based application or code solution that applies Artificial Intelligence (AI) or Machine Learning (ML) techniques to a relevant issue in **Investment and Risk Management**. This project is an opportunity to showcase your coding skills, creativity, and understanding of AI/ML in finance.

## Assignment Requirements

1. **Project Scope**:
    - The project does not need to be overly large but should demonstrate innovation and address a specific issue. Choose a project topic that leverages AI/ML techniques with a clear application or implication in investment or risk management.
    - Your project could cover areas such as, but not limited to:
        - Portfolio optimization with AI
        - Risk assessment using ML models
        - Sentiment analysis for stock predictions
        - Applying a novel AI approach to forecast asset prices.
        - Presentation and/or Assessment of Quantitative trading strategies.
        - Execution of ML/AI model in a specific case, but focusing on explainability (XAI).
2. **Code and Documentation**:
    - Develop the code in Python, ensuring it is well-structured and functional.
    - Include textual commentary in markdown cells within Jupyter Notebook with:
        - Project title and purpose
        - Overview of the AI/ML technique(s) used
        - Brief explanation of the code's functionality
        - (if relevant) Instructions for running the code and any dependencies
    - Your code should be commented adequately for readability and understanding.
3. **Submission**:
    - Via the UTS Canvas site, submit a zipped folder or GitHub link containing:
        - Your Python code and all necessary files
        - Any data files required to run the code (or instructions to access the data).

4. **Class Presentation**:
    - Prepare a **5-minute presentation to demonstrate your project to the class,** followed by Q&A.
    - Highlight the following:
        - The problem you addressed and why it's relevant to finance.
        - Key AI/ML techniques applied.
        - Results and potential applications.
    - Showcase a quick demonstration of the code, if possible.

## Evaluation Criteria

Your project will be evaluated **relative to your peers**, with the highest marks awarded for the best presentations and ideas.

- **Innovation and Relevance (30%)**:
    - Originality of the project idea.
    - Relevance to investment and risk management.
- **Technical Execution (30%)**:
    - Proper implementation of AI/ML techniques.
    - Quality and structure of the Python code.
    - Ability to effectively process and analyse data (where applicable).
- **Documentation and Clarity (20%)**:
    - Clear, detailed explanations of the project's purpose, AI/ML methods, and code functionality.
- **Presentation (20%)**:
    - Effectiveness in communicating the project's purpose and results.
    - Clarity in explaining the AI/ML techniques and financial relevance.
    - Engagement and quality of the demonstration.

## Deadline and Submission

- **In-Class Presentation**: Be prepared to present your project in class on Week 9 (1 October 2025) and Week 10 (8 October 2025).
- **Code Submission**: Upload your completed project by Wednesday, 1 October 2025, at 8 AM on Canvas.

**Good luck, and we look forward to seeing your innovative solutions in AI for Investment and Risk Management!**