Getting Started: AI Capstone Project

Welcome to the AI Capstone!

This project is the culmination of your learning in the Artificial Intelligence Graduate Certificate program. It's your chance to dive deep into a challenging problem and apply the theoretical knowledge and practical skills you've gained to build a significant AI-based solution.

Project Overview

Working in small groups, you will tackle a project that mirrors the complexities and demands of real-world AI development. Your goal is not just to build a model or an application, but to navigate the entire project lifecycle: from understanding the problem and researching solutions to designing, developing, evaluating, and potentially deploying your work.

Key Expectations:

- **Teamwork:** You will collaborate in groups of 3-4 students. Effective communication and shared responsibility are crucial.
- **Problem Solving:** You will select a defined problem space (either from provided charters or an approved custom idea) and develop an AI-driven solution.
- **Research & Rationale:** You are expected to research existing approaches, justify your design decisions, explain why your solution is appropriate and potentially innovative, and consider its real-world viability.
- **Technical Implementation:** You will implement your solution using relevant AI techniques (ML, DL, CV, NLP), programming languages (e.g., Python), libraries/frameworks (e.g., TensorFlow, PyTorch, Scikit-learn, Hugging Face), and potentially cloud platforms (AWS, GCP, Azure).
- **Evaluation & Reflection:** You will rigorously evaluate your solution's performance and reflect on the process, challenges, and outcomes.

Your Immediate Next Steps:

1. **Form Your Group:** Organize yourselves into teams of 3 or 4 students.
2. **Review Project Ideas:** Carefully read through the provided **Project Charter Ideas**. Discuss within your group which problem space interests you most and aligns with your collective skills.
    - *Note:* You may propose your own project idea, but it **must be discussed with and approved by your instructor** *before* you proceed. Ensure any custom idea has a similar scope and complexity to the provided charters.

3. **Select Your Project & Notify Instructor:** Once your group has decided on a project (either from the provided list or an approved custom idea), designate one member to **email your instructor** with:
    - Your group members' names.
    - The specific Project Charter/Idea you have chosen.
4. **Review Course Resources (found at the bottom of this document):** Familiarize yourselves with the key documents for this course (these will be provided by your instructor or available on the course learning platform):
    - The detailed **Milestone Requirements** (Milestones 1-4).
    - The **Final Report Guidelines & Rubric**.
    - The **Final Presentation Guidelines & Rubric**.
    - Any provided **Project Templates** or code repositories.
5. **Begin Milestone 1 Work:** Start planning and working towards the **Milestone 1 Check-in (Week 3)** requirements, focusing on refining your project definition, exploring data, and outlining your initial technical approach and plan.

Course Structure:

The capstone project spans the entire semester and includes four key **Milestone Check-ins** (Weeks 3, 6, 9, 12) where you will discuss your progress informally with the instructor. The project culminates in a **Final Report** and a **Final Presentation & Demonstration**.

Good luck, and don't hesitate to reach out to your instructor with any questions as you get started!

Resources

- Project Charters
- Milestones
- Final Presentation Guideline & Rubric
- Final Report Guideline & Rubric