



## IS 467: Ethics & Policy for Data Science

### Group Project Guidelines

This group project aims to implement a **five-layer Responsible AI Framework** for evaluating ethical and policy considerations in data science. Below are the project details, objectives, deliverables, deadlines, and evaluation criteria. To fully understand the assignment description, student are required to read the research paper titled “System Card+: Responsible AI Framework for Decision Support Systems” which is published by Prof Hailat Tibebu.

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**Page limit:** Midterm and final report together cannot more than 20 pages excluding reference and appendix. (12-20)

My suggestion is

- 8 pages for midterm
- 10-12 pages for final

### Five Layers of Responsible AI Framework

Each group will explore one of the five layers of the Responsible AI Framework and analyze a specific section (Data, Code, Model, or System) within the chosen layer. The five layers include:

#### 1. Performance Accountability Layer

Focuses on ensuring systems are accurate, reliable, and transparent through reproducibility, inspectability, and appropriate documentation.

#### 2. Fairness Layer

Ensures equitable treatment, fairness metrics, bias mitigation, and diverse representation in AI systems.

#### 3. Inclusion Layer

Focuses on diversity, accessibility, cultural sensitivity, and inclusive design to accommodate all stakeholders.

#### 4. Ethical Layer

Addresses consent protocols, ethical guidelines, transparency, and stakeholder engagement to align AI systems with ethical principles.

## 5. Legal Layer

Deals with compliance, privacy regulations, intellectual property, and legal accountability in AI systems.

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## Group Work Structure

- **Layer Selection:** Each group will choose **one of the five layers**.
- **Section Selection:** Within the chosen layer, each group will focus on one section (Data, Code, Model, or System).
- **Evaluation Criteria Development:** Groups will develop Responsible AI evaluation criteria, addressing each individual points presented in the four components:

Development

Assessment

Mitigation

Assurance

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## Deliverables

### Midterm Report (25 Marks)

- **Due Date report:**
- **Presentation:** Due Oct 17/2025
- The presentation will be **online** during the **discussion session** (using power point)
- **Submit a ZIP file named with your group number.**

The file must include:

1. Report: Due Oct 17/2025
  2. Presentation slides- No presentation for the midterm
- **No code is required for the midterm submission.**  
However, for the final submission, you must include your Jupyter Notebook used for data cleaning, preprocessing, and visualization
  - **Deliverables:**
    1. **Introduction:** Overview of the chosen layer and section, its significance in Responsible AI, and its relevance to the group project.

2. **Literature Review:** In-depth review of existing research related to the chosen layer and section, with a focus on Responsible AI practices.
3. **Justification for Selection:** Rationale for selecting the dataset, code, model, or system that the group will analyze.
4. **Explanatory data analysis:** a detail analysis of previously published research paper related to your topic. (at list 8 recently published articles needs to be reviewed)
5. **Report:** which include the introduction, literature review, explanatory data analysis and justification described above.