CSE 3000 Final Project

Overview

To explore the intersection of technology, ethics, and societal impact, you may choose one of four routes:

1. **Bias Analysis**
2. **AI Content Moderation System**
3. **Predictive Crime Modeling**
4. **Another Comparable Project (e-mail me a proposal by 2/10)**

Option 1: Bias Analysis

Objective: Quantitatively analyze a chosen platform for bias (e.g., racial, gender, or political) and compare it against at least two competitors in the same field.

Option 2: AI Content Moderation System

Objective: Build a simple AI model to classify text as appropriate or inappropriate (e.g., toxic, offensive, or spam) using a real dataset. Analyze its performance, discuss ethical concerns, and propose improvements for fairness and transparency.

Option 3: Predictive Crime Modeling

Objective: Develop a crime prediction model using historical crime data, conduct back-testing to evaluate its accuracy, and analyze for potential racial and/or socioeconomic bias in its predictions.

Participation, clarity of communication, rigor in analysis, and depth of ethical reflections are key components of the grading. You are permitted and encouraged to use LLMs to complete any portions of the algorithm design and implementation, but you are responsible for the correctness of its results, and the applicability of any references. You are required to create a GitHub repository with a script that can reproduce the results of your final report.

Further details on each assignment are given in the attached documents.

Grading Criteria

- **Progress Presentations (Out of 25 points):**
  - Explanation of the data you'll be analyzing. (10pts)
  - Clear plan to finish the project. (10pts)
  - Time management during the presentation - no more than 5 minutes. (5pts)
- **Final Presentations (Out of 30 points):**
  - Clarity in presenting findings. (5pts)
  - Logical coherence and structure of the presentation. (5pts)
  - Depth of quantitative analysis and insights. (5pts)
  - Effective use of visual aids (charts, graphs, etc.). (5pts)
  - Depth of ethical discussion. (10pts)
- **Final Report (Out of 25 points):**
  - **Quantitative Analysis / Bias Analysis (7 points):**
    - Rigor in statistical evaluation.
    - Insights derived from the analysis.
    - Correctness of applied methods.
  - **Experimental Design and Implementation (8 points):**

    - Quality of data preparation.
    - Accuracy of model training.
    - Correctness and documentation of code.
- **Ethical Reflection (10 points):**
    - Originality of ethical considerations.
    - Depth and rigor in discussing trade-offs.
    - Proposed solutions for fairness and transparency.

Final Project Timeline

Students are encouraged to reach out to other students and start early. Progress presentations will be given on 3/10, and final presentations on 5/5 (final reports due at midnight). Late work will incur penalties as described in the syllabus. Presentations must be conducted in person, in class. Without prior approval, failure to do this will result in a zero for the assignment.