**Project Idea**

**Topic:**  
**"Analyzing Public Sentiment and Ethical Concerns in AI-Powered Decision-Making Systems: A Computational Social Science Perspective"**

**Description:**  
With the rise of AI decision-making tools (e.g., facial recognition, credit scoring, and predictive policing), public opinion is deeply divided about their ethical implications. Your project could explore public sentiment around these technologies while integrating ethical and human factors. You can analyze sentiment from social media, public forums, or open-source datasets, then assess ethical concerns using a framework like fairness, accountability, transparency, and ethics (FATE).

**2. Proposal**

**Title:**  
"Sentiment and Ethical Analysis of AI Decision-Making Systems: A Cross-Disciplinary Study"

**Abstract:**  
This project investigates public attitudes and ethical challenges surrounding AI decision-making technologies using computational methods. By analyzing textual data from online discussions (e.g., social media, Reddit), we aim to uncover sentiments (positive/negative/neutral), ethical concerns (bias, privacy), and the sociological factors driving these sentiments. Employing techniques such as Natural Language Processing (NLP), sentiment analysis, and topic modeling, we intend to deliver insights to support ethical and socially responsible AI development.

**Objectives:**

1. Identify patterns in public sentiment about AI-powered decision-making systems.
2. Map the relationship between sentiment trends and specific ethical/legal concerns (e.g., bias, transparency).
3. Propose recommendations for businesses, policymakers, and researchers for improving trust and equity in AI.

**3. Summary**

This project combines computational techniques and social science frameworks to understand public sentiment and ethical concerns regarding AI decision-making technologies. Through NLP and machine learning models, the analysis will identify societal attitudes and provide actionable insights to bridge gaps between technology, ethics, and society. The interdisciplinary approach incorporates law, sociology, and business analytics to ensure comprehensive analysis.

**4. Data for Project**

Here are some potential sources of data:

1. **Social Media APIs** (Twitter, Reddit, etc.): Extract discussions/posts with hashtags like #AIethics, #AIfairness, #BiasInAI.
2. **Existing Datasets:**
   * Stanford’s **Social Bias Frames** dataset (AI bias).
   * **Sentiment140** for sentiment analysis groundwork.
   * Kaggle datasets like “**Ethics in AI Discussions**.”
3. **Survey Data (Optional):** Conduct your survey to gauge public opinion directly. Use tools like Google Forms.
4. **Case Studies or News Articles:** Scrape or collect real-world ethical controversies around AI (e.g., Clearview AI, COMPAS).

**5. Models and Algorithms**

To achieve the best results, consider these:

1. **Sentiment Analysis:**
   * Use **VADER** (Lexicon-based for social media sentiment).
   * Train a fine-tuned **BERT** model (e.g., RoBERTa or DistilBERT) for context-rich sentiment detection.
2. **Topic Modeling:**
   * Use **Latent Dirichlet Allocation (LDA)** to extract themes from the text (e.g., bias, transparency).
3. **Ethical Risk Classification:**
   * Train a classifier to categorize ethical concerns (e.g., bias, privacy, accountability) using supervised learning models like **Random Forest** or **SVM**.
4. **Social Network Analysis (Optional):**
   * Analyze how discussions spread using **NetworkX** or **Gephi.**
5. **Visualization Tools:**
   * Use **Tableau** or Python libraries like **Plotly** and **Seaborn** to display insights clearly.

**6. Project Descriptions**

Here’s an outline for your project report:

1. **Introduction:** Importance of ethical AI and public trust.
2. **Literature Review:** Overview of public sentiment on AI ethics, existing studies, and gaps.
3. **Methodology:**
   * Data collection methods.
   * Tools and technologies (NLP, machine learning).
   * Metrics to evaluate sentiment and ethical concerns.
4. **Results:**
   * Key trends in public sentiment.
   * Ethical concerns identified and their prevalence.
5. **Discussion:**
   * Implications for business, law, and society.
   * Comparison with existing studies.
6. **Recommendations and Conclusion:** Actionable insights for ethical AI.

**7. Presentation Material**

For your presentation, structure it like this:

1. **Slide 1:** Title Slide with project title, team names, and course.
2. **Slide 2:** Problem Statement – Why ethical AI matters.
3. **Slide 3:** Research Objectives and Methodology.
4. **Slide 4:** Data Sources and Preparation.
5. **Slide 5:** Models Used (brief overview of algorithms).
6. **Slide 6:** Results – Visualize trends, word clouds, sentiment distribution graphs, etc.
7. **Slide 7:** Discussion – Implications and ethical challenges identified.
8. **Slide 8:** Recommendations.
9. **Slide 9:** Conclusion and Next Steps.

**Tools for Presentation:** Use PowerPoint or Google Slides. Include visuals (charts, graphs, word clouds).

**8. Presenting and Defending Your Project Document**

Key points to focus on during defense:

1. **Why this topic matters:** Tie AI ethics to social impact and potential risks.
2. **Methodology choice:** Justify NLP, machine learning, and data collection methods.
3. **Ethical rigor:** Highlight how your work addresses bias, fairness, and inclusivity in AI systems.
4. **Actionable outputs:** Discuss how your findings can guide ethical AI design.

**Anticipate Questions:**

* What were the biggest challenges in data collection?
* How did you address potential bias in your analysis?
* Can these findings scale to other AI use cases?
* What are the policy implications of your research?