CSSci

Group Project V:
The Unequal Machines Grand Challenge

A Critical Perspective on Algorithmically Assisted Decision-Making

The Unequal Machines Grand Challenge project is designed for you to engage simultaneously with computational social science and inequality research. You are encouraged to study the complex dynamics of inequality through the lens of rich datasets and computational methodologies. This description aims to provide an understanding of the structure and requirements of this project.

The final project deliverable will consist of:

- Demonstration of a socially responsible predictive algorithm.
- Written audit report demonstrating potential biases in the analysis and the measures that were taken to address those biases.
- Code and data submission.

Contents

How to work on the project...

...as a group:

- Maintain professional interactions with the core lecturer, project partner, and relevant stakeholders, including potential study participants.
- Establish a focused research agenda that aligns with the project's scope and objectives.
- Develop a comprehensive timeline with key milestones and regularly evaluate progress to ensure adherence to the schedule.
- Be mindful of implicit assumptions and biases concerning the challenges associated with youth digital exclusion, mental health, and other sensitive themes.
- Actively seek and incorporate feedback throughout the project, particularly during the weekly goals.
- Engage in critical reflection to identify weaknesses in the approach and make necessary adjustments.

...individually within your group:

- Demonstrate professionalism when collaborating with group colleagues, respecting diverse perspectives and maintaining effective communication.
- Fulfill the group expectations outlined in the Team Charter, contributing actively and responsibly to the project's success.

By working collaboratively and professionally, both as a group and as individuals, students will maximize their potential for success in developing a compelling digital intervention that drives system-level change in relation to health and mobility themes.

Deadlines

Day	Date (5 p.m.)	Which?	What?
Friday	**Feb. 09, 14:00 - 17:00**	**Opening Event**	**Attendance Required**
Monday	Feb. 19, 17:00	**Week Goal 1**: Project Outline Document *and* Stand-Up Report notes	Submission via Canvas
Monday	Feb 26, 17:00	**Week Goal 2**: Stand-Up Report notes	Submission via Canvas
Monday	March 4, 17:00	**Week Goal 3**: Project Outline Document *and* Stand-Up Report notes	Submission via Canvas
Monday	March 11, 17:00	**Week Goal 4**: Qualitative research methods *and* Stand-Up Report notes	Submission via Canvas
Monday	March 25, 17:00	**Week Goal 5**: Project Outline Document *and* Stand-Up Report notes	Submission via Canvas
Thursday	March 28, 17:00	**Week Goal 6**: Project Outline Document *and* Stand-Up Report notes	Submission via Canvas
Monday	April 15, 17:00	**Week Goal 7**: Annotated list of relevant AI laws	Submission via Canvas
Monday	April 22, 17:00	**Week Goal 8**: Project Outline Document *and* Stand-Up Report notes	Submission via Canvas
Monday	May 13, 17:00	**Week Goal 9**: Stand-Up Report notes	Submission via Canvas
Friday	May 17, 17:00	**Week Goal 10**: Stand-Up Report notes	Submission via Canvas
Monday	May 27, 17:00	**Week Goal 11**: Stand-Up Report notes	Submission via Canvas
Thursday	**June 06, 17:00**	**Code and Data Submission**	**Final submission via Canvas**
Thursday	**June 06, 17:00**	**Algorithm Audit Report**	**Final submission via Canvas**
Friday	**June 07, 14:00 - 17:00**	**Closing Event: Algorithm Demonstration**	**Attendance Required**

Required Events

Attendance at these events is required for the student to be eligible to receive a passing grade for Group Project V:

- Friday, 09 February, 14:00 – 17:00: Opening Event
- Friday, 07 June, 14:00 – 17:00: Closing Event

Week Goals

Stand-Up Report

Most weeks during Check-In your group will be expected to give a short "stand-up" report on your group project progress and/or pain points. These are very brief – 5 to 10 minutes – presentations that you can give either with or without visual aids (ex. PowerPoint slides, handouts). The idea is to get ideas and feedback (verbal, not written) from your peers and CL. As such, most weeks your Week Goal is simply the notes that your group will use during the stand-up. Assessment will be on the basis of your ability to critically reflect on the needs of your project and your having made a sincere effort to elicit relevant feedback.

Project Outline Document

This semester you will also be expected to maintain a Project Outline Document. This will be a living document where you track the essential aspects of your project. You will need to update this document as you progress to reflect your project's current status. The document will be shared with your CL, but will also be referenced in workshops and practicals. An updated version of this document will occasionally be required as part of a Week Goal.

Recommended Outline:

- Problem statement
    - Relevance to social inequality and/or bias
- Research questions
    - Qualitative research
    - Quantitative research
- IV and DVs
    - Variable names and brief description
    - Response scale
- Project structure diagram/s
    - Qualitative and quantitative analyses
    - Data pipeline flowchart
- Evaluation metric/s

Progress Checks and Deadlines

Please note that there are no "Progress Checks" for Week Goals this semester. Every Week Goal has a single, final deadline. You will still receive feedback on your submissions, but it is assumed that you will incorporate that feedback directly into your final project.

Mindless Machine Phase

Get the best evaluation metric possible, by any means possible.

Week Goal 1

Deadlines

- 17:00, Monday, Feb. 19

Deliverable

- Create a Project Outline Document to be shared with your Core Lecturer (see the recommended outline above).
    - This week you should create the document and agree on how it will be maintained and shared, create the major headers, and create the first draft of your problem statement.
- Stand-Up Report notes: your problem statement.

Feedback

- Feedback will be via student presentations during Check-In on February 20.

Assessment Criteria: Problem Statement

- Appropriately scoped problem statement.
- Professional language.

Assessment Criteria: Stand-Up Report notes

- Critically reflects on the needs of the project.
- Sincere attempt at eliciting feedback from peers and CL.

Week Goal 2

Deadlines

- 17:00, Monday, Feb. 26

Deliverable

- Stand-Up Report notes: regression with group project data
    - Results OR pain points
      The answer may be that the method is inappropriate, but that must be supported with adequate rationale.

Feedback

Feedback will be via student presentations during Check-In on February 27.

Assessment Criteria: Stand-Up Report notes

- Critically reflects on the needs of the project.
- Sincere attempt at eliciting feedback from peers and CL.

Week Goal 3

Deadlines

- 17:00, Monday, March 4

Deliverable

- Updated Project Outline Document
    - Must include a qualitative RQ
- Stand-Up Report notes:
    - Qualitative RQ
    - One of:
        - Improved version of last week's model (results OR pain points)
        - Attempt at new model (results OR pain points)

Feedback

Feedback will be via student presentations during Check-In on March 5.

Assessment: Qualitative Research Question

- Appropriately scoped research question
- Relevance and alignment with project goals.

Assessment Criteria: Stand-Up Report notes

- Critically reflects on the needs of the project.
- Sincere attempt at eliciting feedback from peers and CL.

Week Goal 4

Deadlines

- 17:00, Monday, March 11

Deliverable

- Qualitative research method guide and results of the ethics self-assessment tool.
- Stand-Up Report notes:
    - One of:
        - Improved version of an earlier model (results OR pain points)
        - Attempt at new model (results OR pain points)

Feedback

Feedback on the qualitative methods guide and ethics self-assessment may be either verbal during Check-In on March 12 or written on March 13. As students receive dedicated workshops developing and using these materials, CL feedback will be limited.

Feedback on the Stand-Up Report notes will be via student presentations during Check-In on March 12.

Assessment Criteria: Qualitative method guide and ethics self-assessment

- Sincere and truthful attempt at ethics self-assessment.
- Relevance and adequateness of the qualitative method guide for exploring the topic.
- Qualitative method guide takes stakeholder's framing of the topic into account.

Assessment Criteria: Stand-Up Report notes

- Critically reflects on the needs of the project.
- Sincere attempt at eliciting feedback from peers and CL.

Week Goal 5

Deadlines

- 17:00, Monday, March 25

Deliverable

- Updated Project Outline Document
    - Must include IV and DV information for selected method.
    - Must include evaluation metric for selected method and rationale.
    - Must include data pipeline flowchart.
- Stand-Up Report notes:
    - Final Update on the "Mindless Machine"
        - If anything isn't working yet (and why)
        - Results so far
        - First interpretations of model results
    - What is your plan for moving forward and why
        - Final research question for standard data science prediction
        - Most likely method
    - Initial insight from applying a realist or liberal lens (chose one) to the project.
        - Any thoughts on how the theory and the data relate.

Feedback

Feedback will be via student presentations during Check-In on March 26

Assessment Criteria: Stand-Up Report notes

- Critically reflects on the needs of the project.
- Sincere attempt at eliciting feedback from peers and CL.

Week Goal 6

Deadlines

- 17:00, Thursday, March 28

Deliverables

- Updated Project Outline Document
    - Must include critical research question.
- Stand-Up Report notes:
    - Critical research question
    - Update on qualitative research

Feedback

Feedback will be via student presentations during Check-In on April 2.

Assessment Criteria: Critical research question

- Appropriately scoped research question
- Relevance and alignment with project goals.

Assessment Criteria: Stand-Up Report notes

- Critically reflects on the needs of the project.
- Sincere attempt at eliciting feedback from peers and CL.
- Evidence that qualitative research is proceeding at an adequate pace (results due April 16).

The Auditor Phase

Assess what you have done from a critical perspective, keeping social in/equality in mind. Come up with a strategy to find and address sources of bias in your analysis.

Week Goal 7

Deadlines

- 17:00, Monday, April 15

Deliverable

- Annotated list of relevant AI laws.

Feedback

Feedback will be written, returned by Friday, 19 April.

Assessment Criteria

- Identifies all major laws relevant to the creation, use, sale, etc. of algorithms as they relate to the project topic and given the jurisdictional scope.
- Adequate and informed summary of the relevance of the law to the topic.

Week Goal 8

Deadlines

- 17:00, Monday, April 22

Deliverable

- Updated Project Outline Document
    - Must include project structure diagram
- Stand-Up Report notes: Insight from **one** critical theory
    - What does the theory say about this topic?
        - Note that you should choose only one critical theory to use in your final report. If you have not yet decided which theory is most appropriate, you may raise that question now for feedback.
    - How might that show up in data and your prediction/s?
    - Efforts to enrich the dataset.

Feedback

Feedback will be via student presentations during Check-In on April 23.

Assessment Criteria: Project structure diagram

- Convincingly relates qualitative and quantitative research results.

Assessment Criteria: Stand-Up Report notes

- Critically reflects on the needs of the project.
- Sincere attempt at eliciting feedback from peers and CL.

Week Goal 9

Deadlines

- 17:00, Monday, May 13

Deliverable

- Stand-Up Report Notes: The Hunt for Biases
    - Systematic account of your search for bias
        - Evidence that you planned a systematic search.
        - How you tested.
    - Are there biases showing up?
    - Where?
    - Why?
    - First thoughts on how you might address these biases.

Feedback

Feedback will be via student presentations during Check-In on May 14

Assessment Criteria: Stand-Up Report notes

- Critically reflects on the needs of the project.
- Sincere attempt at eliciting feedback from peers and CL.

Week Goal 10

Deadlines

- 17:00, Friday, May 17

Deliverable

- Stand-Up Report Notes: Privacy Protection
    - Selected strategy/ies for fixing bias
    - Evaluation of privacy risk in training

Feedback

Feedback will be via student presentations during Check-In on May 21

Assessment Criteria: Stand-Up Report notes

- Critically reflects on the needs of the project.
- Sincere attempt at eliciting feedback from peers and CL.

Week Goal 11

Deadlines

- 17:00, Monday, May 27

Deliverable

- Stand-Up Report Notes: Biggest remaining challenge
    - Your choice of the most significant issue that you would like feedback on.

Feedback

Feedback will be via student presentations during Check-In on May 28.

Assessment Criteria: Stand-Up Report notes

- Critically reflects on the needs of the project.
- Sincere attempt at eliciting feedback from peers and CL.

Accommodations for All Week Goals

Specific elements, including word counts and deadlines, may vary based on project-specific needs, with þ¹ÃĚ‡¯¼agreement from your Core Lecturer.

It is important to note that these Week Goals may be adjusted based on the specific requirements and progress of the þ¹ł ÏÃ¡ Ć The timeline provided here allows for a structured approach to the project, ensuring that all objectives are met and contributing to the timely completion of the final project report. Should the sequence of Week Goals outlined here impede, rather than support, your approach, you may request an accommodation.

Accommodations will only be granted in exceptional circumstances and must be well-justified given the ‡ ĆÃ¹˙ ≥ÛŰÿ‡¡ ł◊Ć Ã¹Ã¼Ã≥¹¡› þÛ˙ . Accommodations will not be made for student-specific circumstances through this procedure. There is a separate procedure in place to request deadline extensions or other accommodations due to student circumstances; see the “Force Majeur” section of the Course Manual, your Core Lecturer, or the Study Advisor.

Final Deliverables

Code and Data Submission

Deadlines

Thursday, June 06, 17:00: Final submission via Canvas

Deliverable

All code and data needed to reproduce your work.

Assessment Criteria

- Code runs and is sufficient to reproduce the analysis.
- Logical code structure with clear and professional commenting.
- Competent implementation of machine learning techniques for prediction.
- Soundness of data preparation, including any necessary data linkages.
- Competent implementation of a systematic bias audit as demonstrated through high-quality code and logical code structure.

Algorithm Audit Report

Deadlines

Thursday, June 06, 17:00: Final submission of PDF file via Canvas

Deliverable

Written report of the results of your algorithm audit process and its relevance for social inequality. The report should integrate qualitative and quantitative methods to explore the potential impact of algorithmic decision-making on social in/equality in the assigned topic area. It identifies relevant threats and opportunities to social equality posed by algorithmic decision-making, and presents an analysis of how we might address potential biases in order to make long-term, pro-social outcomes more likely.

Recommended Structure of the Report

- Executive Summary
- Introduction and Problem Statement
- Background and Policy Relevance
- Data and Methods
    - Include appropriate data visualizations.
    - Include a visualization (flow chart) of your experimental setup, including your data-processing, algorithm tuning and use, audit methods, etc.
- Contextualization of results
    - Use qualitative research results to contextualize your digital analysis.
    - Use theory and desk research to identify sources biases and contextualize your digital analysis.
- Audit Results
    - Bias reduction techniques that you employed.
    - Impact of bias reduction on the performance of the algorithm.
- Discussion and Conclusion
    - Benefits and drawbacks of the audited algorithm.
    - Discuss the potential impact of the audited algorithm on social inequality, focusing on **ONE** of the major domains discussed this semester:
        - The impact of IT business models.
        - The law and governance.
        - Civil society and critical political movements.
    - Discuss opportunities for improvement.
- Appendices:
    - Project Outline Document
    - Annotated Data Source List
    - Stakeholder analysis, updated.
    - Ethics assessment results and any required ethics documentation. This may include, for example, informed consent forms.
    - Any relevant supporting materials for your qualitative research. This may include, for example: interview guides, focus group support materials, survey questionnaire, etc.
    - Annotated list of relevant laws and regulations for the jurisdiction.

Assessment Criteria

- Appropriately scoped project with relevant research questions and non-trivial hypotheses.
- Appropriate use of social science theories to support structural arguments:
    - Use of one traditional theory: realism or liberalism.
    - Use of one critical theory: feminism, a critical economic approach, or post-colonialism.
    - Analysis is at the structural level.
- Application of appropriate qualitative methodology and quality of the interpretation of results.
- Application of appropriate digital methods for prediction and quality of the interpretation of results.
- Convincingly links insights from qualitative and quantitative methods to assess social inequality, taking stakeholders into account.
- Minimum academic requirements:
    - 5,000 word maximum (strict maximum), excluding references, figures and tables, and appendices. *Note that the scale and content of figures and tables should be appropriate to the format.*
    - On-time submission of a sincere attempt at every Weekly Goal.
    - Correct referencing of relevant academic sources.

Algorithm Demonstration

Deadlines

Friday, June 06, 14:00 - 17:00 via oral presentation

Deliverable

The group will present their revised algorithm at the Closing Event for the semester. Create an effective presentation using appropriate language and visualizations. The focus of the presentation should be on the algorithm itself, rather than on the larger audit process – this is not a summary of your report!

Assessment Criteria

- Attendance and participation at closing event (required to be eligible to receive a passing grade).
- Effective communication of results:
    - Explains the algorithm's purpose and what problem it solves, highlighting social responsibility.
    - Describes the high-level steps or components of the algorithm.
    - Discusses the algorithm's results and/or efficiency in comparison to the base "mindless machine" model.
    - Discusses challenges and/or limitations associated with the algorithm.
- Appropriate use of supporting elements, for example:
    - Diagrams, flowcharts, or pseudocode to illustrate how the algorithm functions.
    - Real-world use cases where the algorithm could be beneficially employed.
    - Scenarios where the algorithm may not be the best choice.
- Effective use of language and visualizations.

Descriptions of Datasets

In what follows a number of datasets are presented. All of these will be available to you throughout the semester. One of these datasets will be your ***core data,*** meaning the main goals of your project must be tied into the underlying phenomena being measured in the dataset. For example, the ` US Tweets' dataset, the underlying phenomena at hand are either the US 2020 Election, the January 6th incident, or any other substantive topic which can be measured in the data. The remaining datasets, along with any other publicly available data you can leverage from online archives, are at your disposal to further your understanding of the substantive research question.

Goals

Exploration: Firstly, you will explore your dataset and clearly define a measurable outcome which meets two criteria: a) the ability to predict this measurable outcome is of interest to private or public stakeholders; b) predictions of this outcome have the potential to affect the welfare of individuals in real life.

Prediction: In a second phase of your project you will work towards building the best possible model to predict the measurable phenomena at hand. Your goal in this phase – dubbed *`The Mindless Machine'* – is to maximise metrics of predictive power without any care for the substantive ` quality' of your prediction. So for example, your goal for the ` US Tweets' dataset might be to generate a model to classify Tweets as ` Fake' or ` Accurate'. It might be that the model which does this, uses characteristics of users, such as their age, gender or ethnicity, to make this determination. At this stage, you are explicitly tasked with not caring about this – all you want to do is maximise predictive accuracy and build the best classifier.

Inequality Audit: Upon being exposed to critical theories of inequality throughout the second half of Semester 4 - '*The Auditor Phase*' - you will be tasked with performing an audit of your machine, and evaluate whether its predictions are ` biased' in any meaningful way. You will quantify the impact of this bias for several stakeholders according to some meaningful metric. For example, suppose you find that your model of Fake-news classification for Tweets was using the features of language most commonly used by a specific ethnicity to make its judgments. Can you quantify how many Tweets would be ` misclassified' in virtue of this feature of your model ? What sort of harm would this have generated ? are there a subset of topics that would have been classified as ` Fake' whilst in fact being legitimate expressions of speech from the ethnic group using these specific language features ? Can you provide informed speculation on the long-term repercussions of these biases ?

Within this phase, you will have to comment on the substantive findings of your modelling framework – which variables contribute significantly to the prediction, and in which direction are their effects ?
At the end of your audit, you will fix your machine – the goal here will be to minimise the inequalities associated with your predictions, whilst maximising predictive power under these new constraints.

Datasets

Twitter API data around US 2020 Election + January 6th

Description: Tweets responding to query ` Trump OR Biden' during the months around and including the 2020 US Election and Jan. 6th. Twitter API version 1.0

Codebook: This data was generated by the Twitter API Version 1. Details on the output can be found by navigating around this web-page: https://developer.twitter.com/en/docs/twitter-api/v1/data-dictionary/overview.

Format: separate csv files, one for each day of the collection.

Example Prediction Tasks:

- Use a topic model to assign Tweets to a topic, and then predict the frequency of topics during a specific time-period (e.g. the 2020 Election campaign or the January 6th Event);
- Extract measures of candidate popularity, and use these in a model to ` back-cast' the 2020 election, or predict the frequency of the measures themselves;
- Train a classifier to detect instances of Fake news / Conspiracy Theories / Harmful content in general, and demonstrate its efficacy on the dataset.

Example Potential Inequalities:

- Ethically impermissible features of the data are used for prediction of harmful content;
- The political leaning of the platform is such that any election prediction is inherently biased in favour of one side;
- The demographic composition of Twitter is such that the topics extracted with topic modeling only reflect a selected subset of the population of interest, and certain topics' importance is enlarged relative to their prevalence in the ` real world'.

Global Terrorism Database

Source: https://www.start.umd.edu/gtd/

Description: detailed, historical panel of terrorist events by small-area.

Supplementary Data: A second dataset, at the level of *`terrorist organisation'*, is available and can be used to augment the main GTD.

Codebook: available in folder.

Example Prediction Tasks:

- Prediction of Terrorist Incident Deaths / Wounded / Kidnapped / Damage / Success, etc;
- Prediction of Frequency of terrorism by geographical area over time.

Example Potential Inequalities:

- Use of ` geographic indicators' as covariates in your prediction model can generate predictions which are discriminatory to a given group of people, without necessary substantive evidence ;
- Similarly risky dimensions for inequality-generating predictions lie with variables such as religion of the armed group, political affiliation, education levels, etc.

National Election Studies

Source:

US → https://electionstudies.org/ (2016 & 2020 time-series files provided, website open to freely download other years) ;
UK → https://www.britishelectionstudy.com/ (combined 2014-2025 time-series file is provided, website open to freely download other waves and supplementary datasets).

Description: Election-related survey data. Includes questions about attitudes, policy, voting behaviour, etc. The UK dataset is a large time series with multiple waves, which spans over 10 years. Sampling details are available in each respective codebook. Note: the data files are in ` *stata 13*' format - use a relevant package to open these in your language of choice.

Codebook: available in folder.

Example Prediction Tasks:

- Back-cast constituency / state-level election results;
- Individual-level predictive model of opinion for any number of relevant dependent variables (left-right spectrum; support for migration ; trust in government ; etc.)

Example Potential Inequalities:

- Role of individual-level characteristics such as social-status, age, gender, ethnicity, geography, etc.

COVID-19 Forecasting Hub

Source: https://covid19forecasthub.org/

Description: "Record of real-time forecasts of COVID-19 hospitalizations in the US, as well as archival forecasts for COVID-19 cases and deaths, created by dozens of leading infectious disease modelling teams from around the globe, in coordination with the US

CDC". Note: a European version of this dataset exists (https://covid19forecasthub.eu/), though it requires getting comfortable with using the relevant API, downloading the data and making it analysis-ready – we have done this for you with the US data.

Supplementary Data: Covid-19 Open Data (Google Cloud) https://github.com/GoogleCloudPlatform/covid-19-open-data. This repository includes a number of covariates which may be of interest to explain heterogeneity in model performance.

Codebook:

Variable	Description	Example
target_variable	The target of the forecast – cases, hospitalisations or deaths.	"inc case"
target_end_date	The end-date of the period for which the forecast was produced.	"2020-04-11"
location, location_name	Respectively the location ID and name. The ID typically corresponds to FIPS code.	"01", "Alabama"
temporal_resolution	The resolution of the forecast – either weekly (the number predicted is a total for the whole week) or daily.	"wk"
population	The number of individuals residing in the location at hand.	"4903185"
team_model	ID for a specific forecasting model	"COVIDhub-baseline"
forecast_date	Date on which the forecast was made	"2020-04-06"
horizon	Number of weeks or days (depending on resolution) between the forecast date and the target end date.	"1"
forecast_value	The value generated by the model at hand for the target variable.	"920"
truth_source	The source of the true number for the target variable.	"Observed Data (NYTimes)"
truth_value	The true number of the target variable for the target date.	"1630"
abs_error	The absolute error of the forecast.	"710"

model_type	A relatively detailed description of what type of statistical / ML model this is.	"parametric-time.series-RW.first.difference"
model_type.general	A broad description (8 categories) of the type of model at hand.	"parametric-time.series"
abs_error_per10k.pop	The absolute forecast error divided by the population of the location at hand, multiplied by 10,000. This is a ` per capita' error, but because the ` per capita' makes it so small, we look at ` per 10,000' people to have a meaningful number to look at.	"1.44803837"

Example Prediction Tasks:

- Generate a model to predict Covid-19 incidence / hospitalisations / deaths;
- Generate a model to predict the accuracy of Covid-19 forecasting models, based on model-characteristics and evolution of the context at the state-level and over time.

Example Potential Inequalities:

- Is your prediction model for Covid-19 relying on ethically impermissible variables? How do these change the predictions?
- Are there particular areas / time-frames in which a specific set of models performed particularly badly? was poor performance correlated with the states' demographic, social or political background?

Manifesto Project

Source: https://manifesto-project.wzb.eu/

Description: Information on the electoral manifestos of 1373 parties, across 67 countries and 849 elections. The dataset is already augmented with various other information, including country-level election results.

Supplementary Data: The manifesto project team has trained its own Large Language Model - https://manifesto-project.wzb.eu/information/documents/manifestoberta - which can be used to classify any manifesto-like statement to generate some of the attributes (e.g. Environmental Stance: Positive) measured in the dataset. The model is freely available from Huggingface https://huggingface.co/manifesto-project/manifestoberta-xlm-roberta-56policy-topics-sentence-2023-1-1.

Codebook: available in folder.

Example Prediction Tasks:

- Predict vote-share in general elections based on policy-positions ;
- Predict evolution in program characteristics based on contextual data for the given party-time-country combination;
- Predict a given country-wide development in inequality (see historical inequality datasets to augment this) with country-wide trends in policy-position development of governments;
- Use *Manifestoberta* to label the Tweets datasets in terms of policy-positions, and predict their evolution before, during and after the 2020 Election, January 6th, etc.;
- Use *Manifestoberta* to generate counterfactual manifestos, endowed with ` risky' policy positions, and see whether this would have led to higher / lower vote share in the elections.

Example Potential Inequalities:

- Does your model imply specific policy-positions which are ethically problematic would induce higher votes in elections?
- Does your model suggest certain policy positions are systematically linked to increasing / decreasing inequality? Is this justified?
- Does *Manifestoberta* classification lead to unequal assignment of policy stances? How can you tweak your downstream model to take into account these inequalities?

Auxiliary Datasets

These are some generally useful datasets that we have identified as potentially relevant to a wide variety of research agendas. You are welcome to find and incorporate other legal, publicly available datasets in your group's analysis as well.

A. National Labor Conflicts

Source: https://datasets.iisg.amsterdam/dataverse/labourrelations

Description: Country level time series data on strength of labor conflicts and working hours lost.

B. Varieties of Democracy

Source: https://v-dem.net/data/the-v-dem-dataset/

Description: Large country-level time series data (historical and contemporary) encompassing a number of variables relating to the state of the democracy in the given country. An important variable as it relates to inequality here is the ` Female Participation Index'.

C. Education Inequality Indicators

Source: https://www.education-inequalities.org/indicators

Description: Various country-level time series of education-related variables, such as literacy and school completion.

D. World-Bank Gender Inequality Indicators

Source: *https://genderdata.worldbank.org/indicators*

Description: Various country-level time series of gender-related variables, such as fertility rates, % households with female head, etc.

E. Daily US Opinion Polls

Source: https://projects.fivethirtyeight.com/polls/president-general/

Description: Downloadable CSV files with various opinion polls for the 2020 and 2024 electoral cycles in the US.