ROBERT A. AND SANDRA S.
BORNS JEWISH STUDIES PROGRAM

INSTITUTE FOR THE STUDY OF CONTEMPORARY ANTISEMITISM

Detecting Antisemitic Hate Speech & Conspiracy Fantasies – From Raw Data to Smart Detection – June & July 2025

> **Overview:** In this datathon, your team will tackle two interconnected challenges that reflect real-world tasks in hate speech research: the creation of a labeled dataset and the application of machine learning techniques to detect hate speech. Your coordination, documentation, and critical reflection on the results will be assessed and evaluated by experts in this field.

#1 Challenge: Building the Dataset

Goal: Create a small but meaningful labeled dataset for hate speech detection.

Tasks:

1. **Data Collection:** Use the *Bright Data*[1] interface to scrape a minimum of atleast 100 relevant posts of user-generated content (e.g., tweets, posts, or comments) from your selected platform.

2. **Sampling and Documentation:** Decide on your scraping focus (e.g., specific hashtags, keywords, seed list or user groups) and document your strategy. Describe how you targeted the issue, the motivations behind your decision, and why this content is relevant and potentially biased.

3. **Annotation:**
   - Apply a definition of antisemitism and hate speech to annotate your dataset.
   - Apply a standardized annotation form (either use our scheme as prototype, adjust it or create your own scheme based on the type of content you are interested in).[2]
   - You can use the online *Annotation Portal*[3] for labeling or use your own annotation software.[4]

4. **Dataset Report:** Include label definitions, class distributions, your annotation rationale, and any challenges you encountered.

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[1] https://brightdata.com/products/web-scraper/functions
[2] https://arxiv.org/abs/1910.01214
[3] https://annotate.osome.iu.edu/
[4] We recommend either LabelStud.io or and Inception.

#2 Challenge: Modeling and Evaluation

Goal: Use our pre-annotated gold standard dataset to build and evaluate a hate speech detection system.

Tasks:

1. **Dataset Access:** Download one of the provided annotated datasets:

   Antisemitism on Twitter: A Dataset for Machine Learning and Text Analytics[5]

   Antisemitism on X: A Dataset Tracking Trends in Counter-Speech and Israel-Related Discourse Before and After October 7[6]

   A German Language Labeled Dataset of Tweets[7]

2. **Modeling:** Use state-of-the-art ML or LLM tools (e.g., scikit-learn, spaCy, or Hugging Face Transformers) to train a model.

3. **Evaluation:**

   - Report metrics such as precision, recall, F1-score, and display a confusion matrix.
   - Report the hyperparameters that were used to fine-tune the model.
   - Perform error analysis—what kinds of mistakes does your model make?
   - Provide qualitative examples where the model predicts false-positives.

#3 Resources and Structure

- A live tutorial will introduce you to our *Annotation Portal* and *Bright Data*.

- Breakout sessions will follow for Q&A, team coordination, and hands-on work.

- At the end of the datathon competition, each team will present their workflow and insights in a short report, including scripts and documentation of used tools.

#4 Scoring & Evaluation

Each team can earn a maximum of **100 points**, with an additional **20 bonus points** available for optional advanced tasks.

- **50 points – Task Performance:** Based on accuracy, model performance, and ability to correctly classify the evaluation dataset.

- **50 points – Report and Presentation:** Quality of the final report, clarity of presentation, insights into methodology, and teamwork.

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[5] https://zenodo.org/records/14448399
[6] https://zenodo.org/records/15025646
[7] https://zenodo.org/records/10053509

- **+20 Bonus Points** – **Optional:** Extra points may be awarded for:
    - Using advanced evaluation metrics such as **Krippendorff's Alpha** or **Cohen's Kappa** for inter-annotator agreement
    - Apply the model to new, unseen scraped content.
    - Creative methodological approaches
    - Engagement with the social and ethical implications of the task

The jury includes experts from machine learning, hate speech research, and digital humanities.

Any Further Questions? *Don't hesitate to reach out!*

For questions or technical support, reach out to the organizing team: Dr. Daniel Miehling (damieh@iu.edu), Prof. Gunther Jikli (gjkeli@iu.edu), and Rachel Kelly (rk18@iu.edu).

Remember: The competition not only demands curiosity, but also strong teamwork and critical thinking to succeed!