To: Redo.io

CC: California Department of Corrections and Rehabilitation

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Subject: A Sustainable System for Resentencing Review

Executive Summary

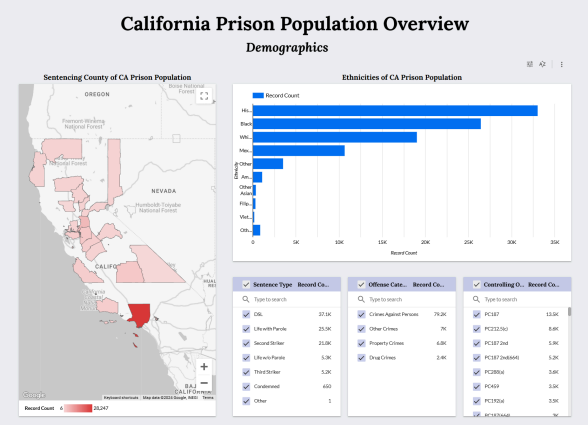
To create a sustainable system for resentencing review in California, we propose an online tool to aid district attorneys and the public, combined with minimal mandates and a self-sustaining incentive system to hold district attorneys accountable.

RECOMMENDATIONS & ANALYSIS

To encourage prosecutor-initiated resentencing, we propose ***a model for ranking candidates for review*** in addition to ***incentives and small-scale mandates that encourage the review of such candidates*** for potential resentencing. A public website listing cases with a high level of priority for review can increase transparency about legal developments to the public, building an accountability structure that will lead to a sustainable resentencing process.

To create an effective platform for district attorneys and the general public to access crucial information about cases and potential resentencing, **the following *technological elements*** should be present.

Dashboard of dynamic data visualizations: The website features an interactive dashboard designed for attorneys and the public to learn about the California prison population, most notably insights into what type of people are incarcerated and for what crimes. Currently, there are two dashboards, one for current commitments and one for demographics. Users can interact with a map highlighting counties, bar graphs showing distributions across categories such as offense type and ethnicity, along with checkboxes to filter the data. For example, by clicking on a county in the map, attorneys or citizens can access county-specific statistics and apply further filters. This dynamic tool encourages deeper engagement with the resentencing review process.



Adjustable metrics for ranking: The U.S. Federal Government has a robust system of guidelines for rating the severity of crimes. Instead of imposing an artificial metric, which would be subject to debate or bias, the backbone of our metric will be an adaptation of this pre-existing system. We have developed a set of 13 basic categories (Appendix A). With further resources, a full conversion between California penal code and federal severity computation should be developed. Prior commitments are considered with an adjustable "decay" factor, such that the weight of these crimes decreases as time passess from the date they were committed. In addition, we consider mitigating factors, such as age at time of conviction, mental illness, or prior trauma. These weights will be adjustable to fit the specific goals of any individual District Attorney.

Machine learning model: To support eligibility determination for Prosecutor Initiated Resentencing (PIR), we developed a Balanced Random Forest model designed to predict the likelihood of a case or individual being reviewed for resentencing. The model was trained using a dataset of approximately 90,000 cases, where only around 550 were identified as eligible for PIR based on prior evaluations. Given the significant class imbalance, we employed Synthetic Minority Oversampling Technique (SMOTE) to balance the training data, ensuring that the model could adequately learn patterns associated with eligible cases. During evaluation, the model achieved a recall of 0.86 for the eligible class, meaning it successfully identified most of the actual eligible cases, while the precision for this class was 0.41. Although precision is moderate, the high recall ensures that the model effectively highlights cases warranting further review, minimizing the risk of overlooking eligible individuals. This prioritization is critical for policymakers, district attorneys (DAs), and public defenders, as it provides a ranked list of candidates for reform consideration. Moreover, when manually inspecting cases predicted as eligible but not originally labeled as such, we observed shared characteristics with known eligible cases.

Open-source and transparent: The development and maintenance of the website will be completely transparent to the public, with developers specifying how they accessed data, which criteria are considered when ranking incarcerated individuals, and processes used to validate the model's results. For instance, the process for evaluating that our model does not further contribute to systemic racial bias would be made publicly available (Appendix B). Due to the policy-making power of our algorithmic tool, the code for the model will be completely open-source, just as with the text of any legislative or executive act. Additionally, the website will be built with an intuitive interface to allow people without training or an academic background to understand the legal movements in California. For example, users can hover above a "?" icon with their mouse and learn definitions of terms such as "aggregated months."

To incentivize the district attorneys to use the tool, **the following *policies*** can hold district attorneys accountable.

Require district attorneys to provide county-specific and prisoner data: Since the eligibility criteria for resentencing is different in each county in California (Los Angeles County, para. 1-3) (County of Santa Clara) it is necessary for the district attorney's office to specify their criteria for the machine learning model to adapt to their requirements. In addition, the office should provide all prisoner data relevant to the county's eligibility requirements such as the aggregated months of their current sentencing.

Mandate the district attorney's office to review extreme outlier cases: By mandating the district attorney's office review at least 5 or 50% of extreme outlier cases, the task is achievable and impactful. If the number of required cases is too high, the district attorney's office may argue they do not have the resources to spend on the new policy. Thus, a reasonable number is essential for proper implementation.

Compel the district attorney's office to publish a press release annually: In an annual press release, the district attorney's office will be required to cite (1) the specific case number of the cases they reviewed, (2) the decision regarding whether or not the defendant will be resentenced, and (3) the reasons for their decision-making. The press release will be available online and in government records. In the event the district attorney does not comply with the previous policies, the press release will disclose where the district attorney failed to meet the outlined expectations. With the press release in the public domain, members of the public such as journalists can apply pressure to the district attorney's office. If enough public attention surrounds the issue, the district attorney may likely feel obligated to fulfill their legal duties in order to be re-elected.

Financial incentives: It costs approximately $106,000 to incarcerate someone in California (California Legislative Analyst's Office). If review processes result in resentencing, money would be saved by the State. Over 70% of this money would then be partially re-allocated to the counties whose resentencing resulted in this decreased cost, earmarked for community initiatives and DA office budgets, shifting the benefits of decreasing prison population from the state government to the county government. The remainder of the money would remain at the state-level to support the implementation of this program. Due to the mandates for review, county DA offices would already have the infrastructure to support review of cases for potential resentencing procedures. This would lower the boundary for review to the point where it is financially beneficial to consider re-sentencing certain convicts. In addition to the open process restoring faith in the criminal justice system, the public would be able to see the taxpayer dollars saved through this program.

ALTERNATIVES

Improving upon existing solutions: Our technical solution addresses the limitations of the current model used by Redo.io in several ways: (1) it adopts a more flexible approach rather than relying strictly on rules-based classification, (2) it replaces code and spreadsheets with a user-friendly dashboard and website to improve accessibility, and (3) it introduces a ranking system and racial justice category indicator to help attorneys prioritize cases, streamlining and simplifying the resentencing review process.

Multifaceted approach: Another alternative to incentivize the district attorney is solely relying on public pressure. The passage of Proposition 36 in 2012 (Ballotpedia), Proposition 47 in 2014 (County of San Diego), Prosecutor Initiated Resentencing in 2018 (For the People), and the Racial Justice Act in 2020 (Stanford Law School) indicated that Californian constituents were open to a less harsh criminal justice system. However, with the passage of Proposition 36 in 2024 (Ballotpedia), the public has shown a desire to return to a "tough on crime" approach. This shift in public opinion demonstrates that while public opinion may be one factor to incentivize the district attorney, it should not be the only factor. The differences between conservative and progressive counties should also be taken into account, as people in progressive counties are likely to be more motivated to pursue cases that further criminal justice.

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APPENDIX A: Deterministic Metrics

The metric for ranking candidates for review consists of a single equation that combines multiple factors:

$$R(candidate) = a \cdot \sum_{c}^{C} f(c) + b \sum_{p}^{P} f(p) \cdot d^{t_i} + \sum_{i} x_i y_i$$

Where:

- a represents the **weight** given to current convictions and b represents the **weight** given to past convictions
- $c \in C$ is a specific **current** conviction in the set of a candidate's current convictions and $p \in P$ is a specific **past** conviction in the set of a candidate's past convictions
- $f(z)$ is the adapted federal guideline **severity score** from 1 to 43 for crime z, taking into account both base offense level and additional factors as described
- t_i is the time elapsed in years since conviction p
- d is an adjustable **decay factor** for previous convictions
- x_i represents the **weight** for a mitigating (in the case of negative x_i) or exacerbating factor (in the case of positive x_i) and y_i represents the **presence** of the mitigating factor on a scale from 0 to 1

A lower R score implies a better candidate.

For an example implementation, Alice is currently incarcerated for a theft of $7000. Prior to this, she was incarcerated for a low-level drug possession crime eight years ago and again five years ago. She has taken a class on restorative justice in prison. The DA wishes to consider prison education in their search, uses a decay factor of 0.95, and assigns: $a = .3, b = .5, x_{class} = -1$.

Under federal guidelines, her theft has a base level score of 6, and 2 points are added due to the value being over $6500, for a total score of 8. Her drug possession conviction has a score of 6. Her class gives her a value of 1 for y_{class}.

Therefore:

$$R(Alice) = .3 \cdot 8 + .5 \cdot (6 \cdot 0.95^{8} + 6 \cdot 0.95^{5}) + (-1)(1) = 5.712$$

Meanwhile, Bob, who has committed the same crimes as Alice, but also has an aggravated assault 11-years prior and did not take a class, would have a higher score, due to the absence of the mitigating factor and the additional four-point offense:

$$R(Bob) = .3 \cdot 8 + .5 \cdot (6 \cdot 0.95^{8} + 6 \cdot 0.95^{5} + 14 \cdot 0.95^{11}) + (-1)(0) = 10.693$$

These values can be learned to fit the needs of a specific community through machine learning. Or, for those wary of machine learning models being imposed on their counties, these values can be modified through directly entering numbers or through dropdown menus that allow various levels of prioritization: NONE, LOW, MEDIUM, HIGH, or VERY HIGH.

APPENDIX B: Model Evaluation

One major challenge of building an effective model is the lack of labeled data—it is unclear who a good candidate for resentencing is, due to the early state of the PIR program. As the use of this model is made consistent in county DA's offices, however, human feedback on the suitability of the candidates will be available, enhancing the training data and allowing the model to be retrained.

Another important consideration is whether this program contributes to or improves bias in sentencing. Currently, 19% of the prisoners in the dataset are white, 40% are Black, and 18% are Hispanic. For all but one of the eleven data-sufficient categories we identified (Theft, Attack/Injury, Drug Crimes, Vehicular Crimes, Murder, Environment/Arson/Public Danger, Kidnapping/Trafficking, Gun/Major Weapon Crimes, Fraud/Perjury/White Collar, Miscellaneous Near-Misdemeanors), Black convicts have, on average, a higher sentence than white convicts. If a re-sentencing model is more likely to suggest review for white prisoners than Black prisoners, it will only exacerbate this divide. On the other hand, if the model helps decrease this gap, then we know it is a potential way to reduce sentencing bias.

Below, we show how Black inmates comprise over 35% of the inmates chosen for review according to Redo.io's deterministic selection criteria. However, despite Hispanics comprising a greater percentage of the prison population, they are a much lower portion of those chosen for review. This is not necessarily an indicator of a biased tool, but is an important discrepancy to track and explore.