

Can AI Improve Asylum Decision-Making?

Daniel L. Chen

Judicial Analytics for Recognition and Dignity

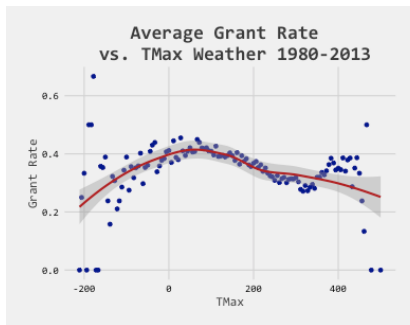
- Cognitive science and psychology suggests that humans have limited and imperfect reasoning capacities (Tversky and Kahneman 1986; Eyster 2019)

Judicial Analytics for Recognition and Dignity

- Cognitive science and psychology suggests that humans have limited and imperfect reasoning capacities (Tversky and Kahneman 1986; Eyster 2019)

The weather

Judges deny refugees asylum when the weather is too hot or too cold

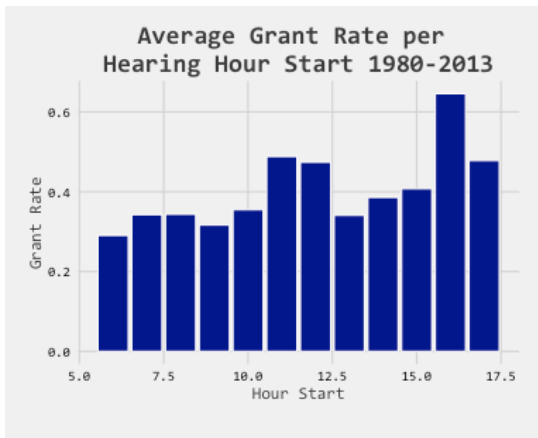


ICAIL 2017

See also *Hayes and Saberian, AEJ 2018*

Time of Day

They grant asylum more before lunch and less after.

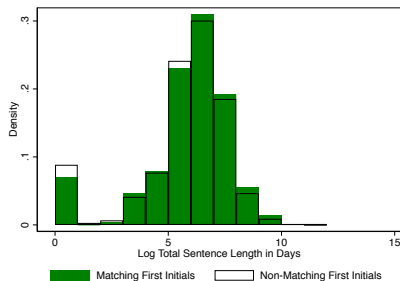


1M decisions

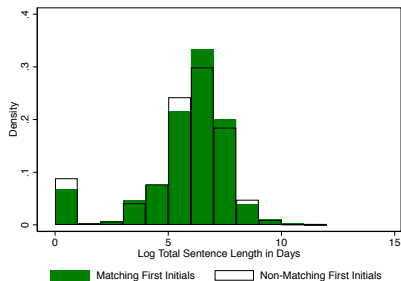
See also Norris 2020, Danziger, Levav, Avnaim-Pesso, PNAS 2011

The defendant's name

They assign longer sentence lengths to defendants whose first initial matches their own.



First Letter of First Name



First Letter of Last Name

See also *Belenzon, Chatterji, and Daley, AER 2017, Jena, Sunstein, and Hicks 2018*

The defendant's birthday

When they do the opposite and give the gift of leniency

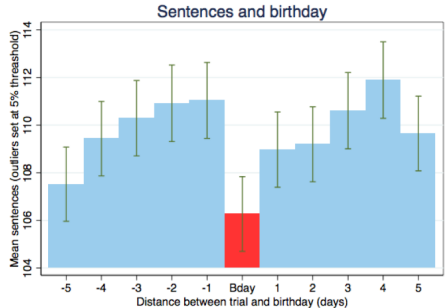
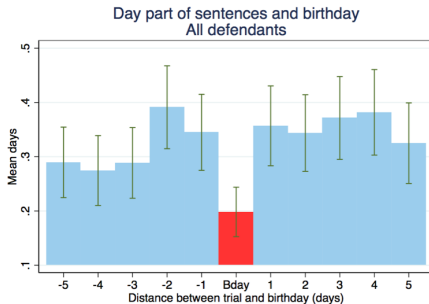
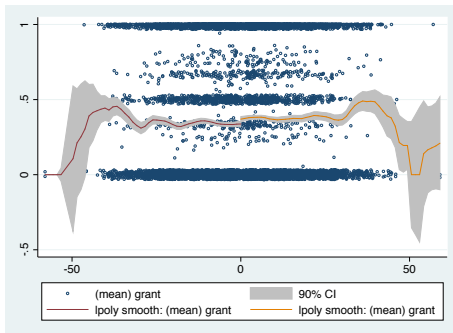


Figure: US and French judicial leniency on defendant birthdays

NFL Football

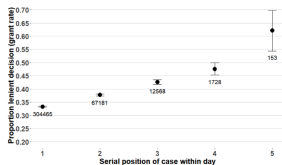
Judges are more lenient the day after their team wins, rather than loses.



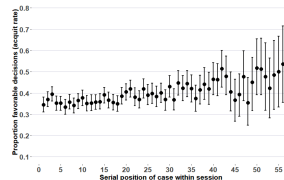
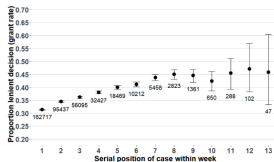
See also *Eren and Mocan, AEJ 2017*

Sequences

Judicial leniency grows for later cases.



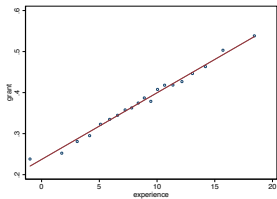
in granting asylum



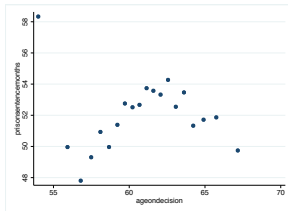
in acquittals

See also Antipov & Pokryshevskaya, 2017; Bian et al., 2019; Colton & Peterson, 1967; Scheer, 1973; Wilson, 1977

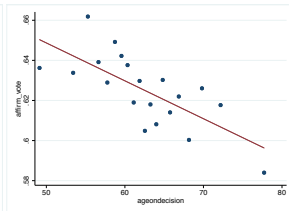
Leniency grows with a judge's age



in granting asylum



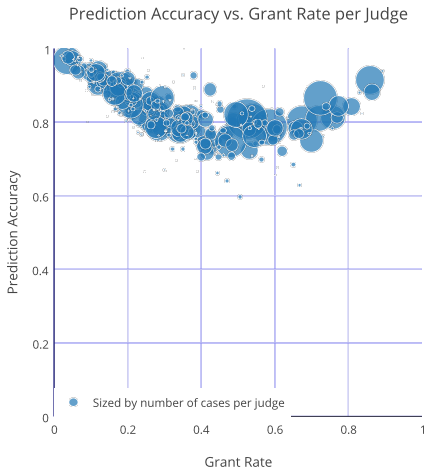
in sentence lengths



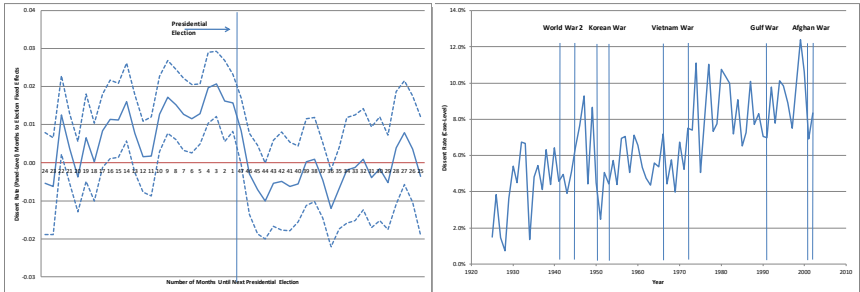
in criminal appeals

Snap judgments

We can use machine learning to predict asylum decisions with 80% accuracy the date the case opens.. and when it closes.



Elections and wartime also affect decisions



JLE 2017

Gambler's Fallacy

How people often imagine a sequence of coin flips:

0101001011001010100110100

A real sequence of coin flips:

0101011111011000001001101

Up to 5% of decisions reversed due to the gambler's fallacy

UMPIRE CALLS AND THE GAMBLER'S FALLACY

MLB umpires call fewer strikes if previous call was a strike

Percentage point decline in probability of a called strike if:

- Previous call was a strike ● Previous two calls were strikes*

Obvious pitches: Within 3 inches of center of strike zone

-0.2

-0.5

Ambiguous pitches: Within 1.5 inches of edge of strike zone

-3.5

-4.8

*Compared to two previous calls that were balls
Source: Authors' calculations using PITCHf/x data

QJE 2016

In the US Supreme Court, the first sentence of the lawyers oral arguments are identical

Recording 1 of 66



1. Please provide your impression of the voice recording in the matrix below:

Very Attractive	☐	☐	☐	☐	☐	☐	☐	Very Unattractive
Very Masculine	☐	☐	☐	☐	☐	☐	☐	Not At All Masculine
Not Intelligent	☐	☐	☐	☐	☐	☐	☐	Intelligent
Very Unaggressive	☐	☐	☐	☐	☐	☐	☐	Very Aggressive
Not Trustworthy	☐	☐	☐	☐	☐	☐	☐	Trustworthy
Very Confident	☐	☐	☐	☐	☐	☐	☐	Very Timid

2. Assuming that this is a lawyer arguing a case in front of a panel of judges, how likely do you think this lawyer will win the case?

Will Definitely Lose ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Will Definitely Win

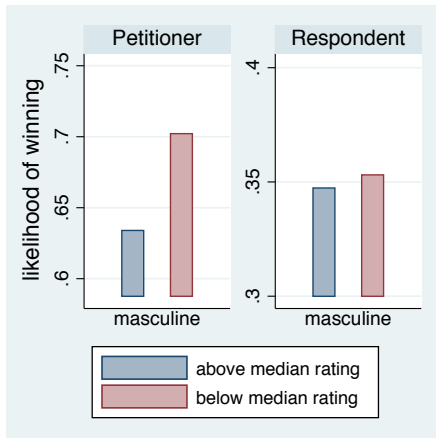
3. How good is the quality of the recording?

Very Bad ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Very Good

Next

“Mr. Chief Justice, (and) may it please the Court?”

Male petitioners below median in masculinity rating are 7 percentage points more likely to win



Plos-ONE 2016

See also Dietrich, Enos, Sen, *Political Analysis* 2018

Besides voice, there is text



Besides voice, there is text



- Females: Migraine, hysterical, morbid, obese, terrified, unemancipated, battered
- Males: Reserve, industrial, honorable, commanding, conscientious, duty

Besides voice, there is text

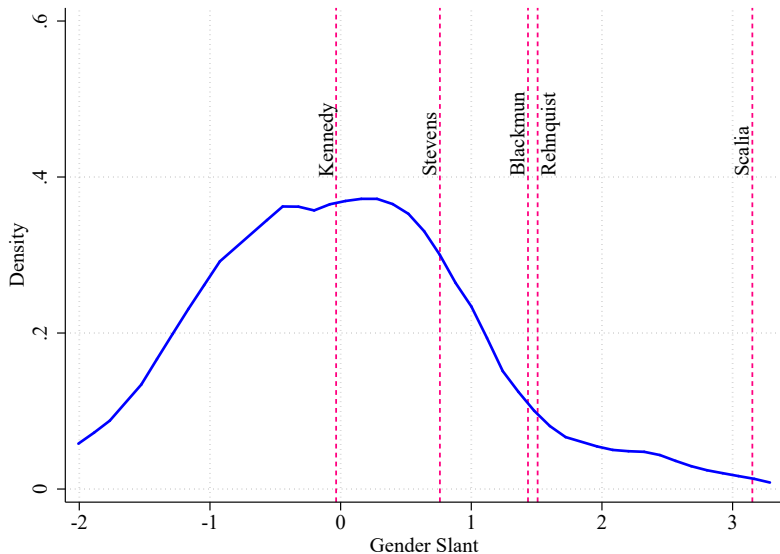


- Females: Migraine, hysterical, morbid, obese, terrified, unemancipated, battered
- Males: Reserve, industrial, honorable, commanding, conscientious, duty

See also *Caliskan, Bryson, Narayaan, Science 2017*

We can do this judge by judge

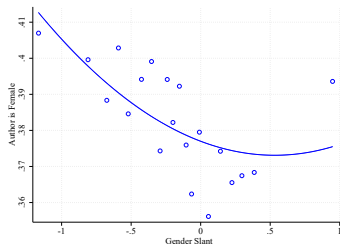
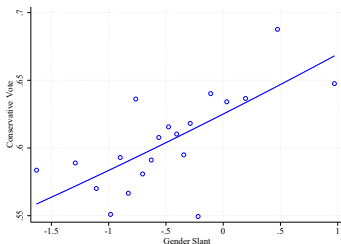
Justice Scalia is an outlier in gender slant



In the Circuit Courts, judges with more gender slant..

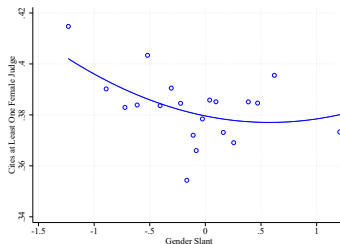
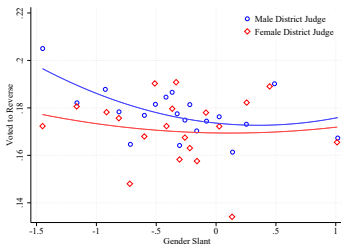
Vote against women's rights issues

Assign fewer opinions for females to author



Reverse male judges less often

Cite female judges less often



By 1990, 40% of federal judges had attended an economics-training program.

The New York Times

19 U.S. Judges Study Economics To Help Them in Work on Bench

Special to The New York Times

KEY LARGO, Fla., Dec. 18—For three weeks, 19 Federal judges from around the country took a grueling, six-day-a-week course in economics that ended here yesterday.

With classes starting at 9 A.M. and sometimes ending at 10 P.M. or later, the judges received the equivalent of a full semester at the college level.

Their teachers were, among others, two Nobel laureates in economics, Paul Samuelson and Milton Friedman. The courses, sponsored by the Law and Economics Center of the University of Miami School of Law, made up what is believed to have been the first such institute for Federal judges.

"It was a very enriching experience," said Chief Judge John W. Reynolds of the Federal District Court in the Eastern District of Wisconsin. "We were here not to become economists, but to understand the language of economics. Courts are only as good as judges and the lawyers who appear before us. By and large, our training in economics is not really satisfactory, and yet we are being increasingly called upon to decide economic issues."

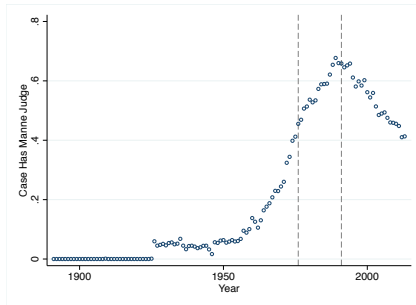
The program dealt basically with economic theory, and an effort was made

not to relate the theoretical studies to cases now pending in Federal court. "One has to be very cautious in dealing with Federal judges," said Henry Manne, director of the center. "Our goal has been to give them the most recent thinking in economic theory and enable them to better understand the testimony of expert witnesses and lawyers."

Chief Judge David N. Edelstein of the Federal District Court in the Southern District of New York, who is the judge in the International Business Machines Corporation antitrust case—regarded as many lawyers as the most important antitrust litigation of the century—informed attorneys in the case of his intention to attend the institute to clear any questions about a possible conflict of interest.

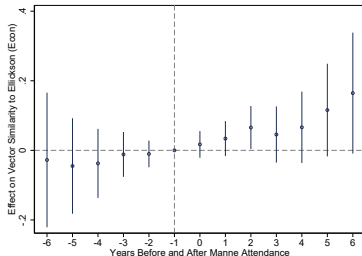
"All the lawyers were very cordial and replied that they saw no grounds for a conflict of interest in my coming here," Judge Edelstein said.

From the beginning, the judges, some of them 60 years old or over, behaved like students, deferring to their teachers and reminiscing about undergraduate days decades ago.



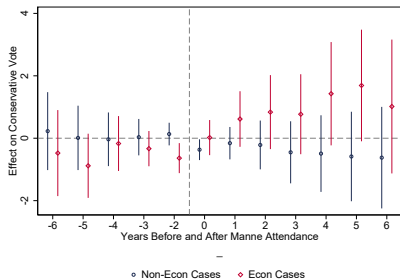
The results of these seminars were dramatic

We can see economics language used in academic articles became prevalent in opinions.

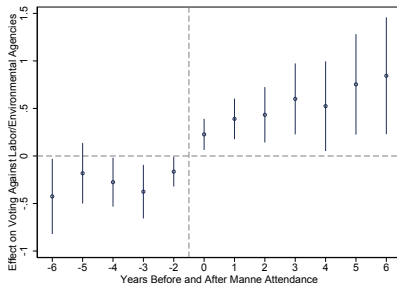


The results of these seminars were dramatic

We can see economics trained judges changing how they decided



Econ vs Non-Economics Cases



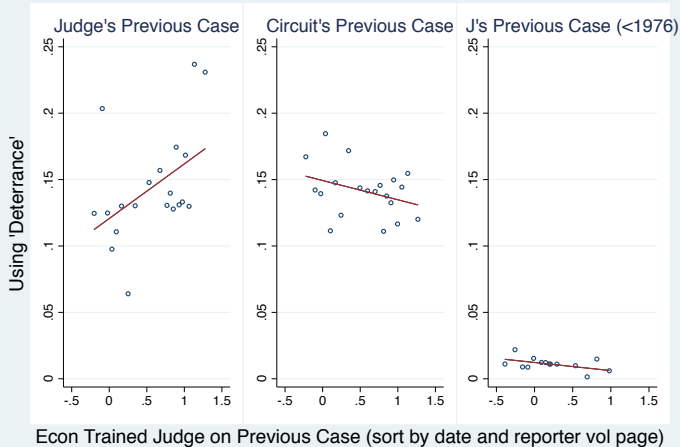
on Labor/Environmental Cases

See also *Hjort, Moreira, Rao, and Santini, AER R&R*

Impacting their peers

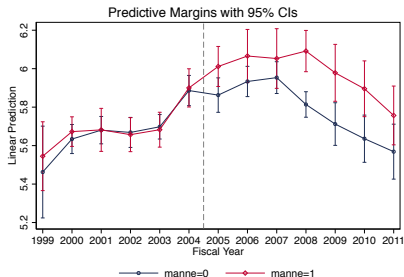
We can see economic language traveling from one judge to another and across legal areas.

Impact of Peer Economics Training on Use of 'Deterrence'



When judges were given discretion in sentencing

economics trained judges immediately rendered 20% longer sentences relative to the non-economics counterparts.



See also *Cohen and Yang, AEJ 2019*

Justice: **equal treatment before the law** ($y = f(X) + \varepsilon, a \rightarrow X$)
equality based on recognition of difference
($y \perp W, \text{var}(\varepsilon) \perp W, a \nrightarrow W$)

control principle and merit principle: individuals responsible only for events that are under their control
W: race, gender, masculinity, name, football, weather, judge's lunchtime, preceding case, ...

Justice: **equal treatment before the law** ($y = f(X) + \varepsilon, a \rightarrow X$)
equality based on recognition of difference
($y \perp W, \text{var}(\varepsilon) \perp W, a \nrightarrow W$)

control principle and merit principle: individuals responsible only for events that are under their control

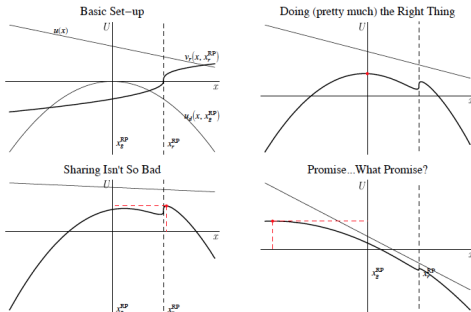
W: race, gender, masculinity, name, football, weather, judge's lunchtime, preceding case, ...

Justice: **equal treatment before the law** ($y = f(X) + \varepsilon, a \rightarrow X$)
equality based on recognition of difference
($y \perp W, \text{var}(\varepsilon) \perp W, a \not\rightarrow W$)

control principle and merit principle: individuals responsible only for events that are under their control
W: race, gender, masculinity, name, football, weather, judge's lunchtime, preceding case, ...

Machine Learning and Rule of Law *Computational Analysis of Law 2018*

- Behavioral anomalies offer intuitive understanding of feature relevance
- “settings where people are closer to *indifference* among options are more likely to lead to detectable effects [of behavioral biases] outside of it.” (Simonsohn, JPSP 2011)



A model of recognition-respect and
revealed preference indifference

Using ML to Diagnose Judicial Inattention

- ① Early predictability
- ② Behavioral anomalies
- ③ If systematic indifference, judge identity might predict appeal
- ④ Inattentiveness to appellate reversals
- ⑤ Implicit risk rankings of litigants closer to random
- ⑥ Difference-in-indifference for certain groups?

Using ML to Diagnose Judicial Inattention

- 1 Early predictability
- 2 Behavioral anomalies
- 3 If systematic indifference, judge identity might predict appeal
- 4 Inattentiveness to appellate reversals
- 5 Implicit risk rankings of litigants closer to random
- 6 Difference-in-indifference for certain groups?

Using ML to Diagnose Judicial Inattention

- 1 Early predictability
- 2 Behavioral anomalies
- 3 If systematic indifference, judge identity might predict appeal
- 4 Inattentiveness to appellate reversals
- 5 Implicit risk rankings of litigants closer to random
- 6 Difference-in-indifference for certain groups?

Using ML to Diagnose Judicial Inattention

- 1 Early predictability
- 2 Behavioral anomalies
- 3 If systematic indifference, judge identity might predict appeal
- 4 Inattentiveness to appellate reversals
- 5 Implicit risk rankings of litigants closer to random
- 6 Difference-in-indifference for certain groups?

Using ML to Diagnose Judicial Inattention

- ① Early predictability
- ② Behavioral anomalies
- ③ If systematic indifference, judge identity might predict appeal
- ④ Inattentiveness to appellate reversals
- ⑤ Implicit risk rankings of litigants closer to random
- ⑥ Difference-in-indifference for certain groups?

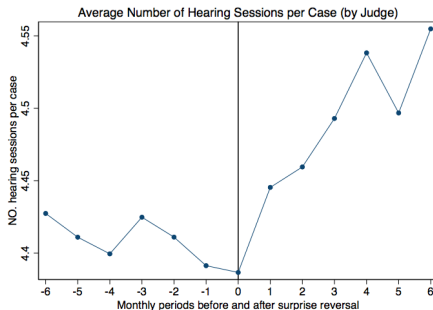
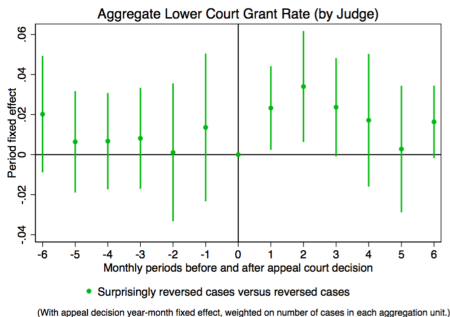
Using ML to Diagnose Judicial Inattention

- ① Early predictability
- ② Behavioral anomalies
- ③ If systematic indifference, judge identity might predict appeal
- ④ Inattentiveness to appellate reversals
- ⑤ Implicit risk rankings of litigants closer to random
- ⑥ Difference-in-indifference for certain groups?

Using ML to Diagnose Judicial Inattention

- ① Early predictability
- ② Behavioral anomalies
- ③ If systematic indifference, judge identity might predict appeal
- ④ Inattentiveness to appellate reversals
- ⑤ Implicit risk rankings of litigants closer to random
- ⑥ Difference-in-indifference for certain groups?

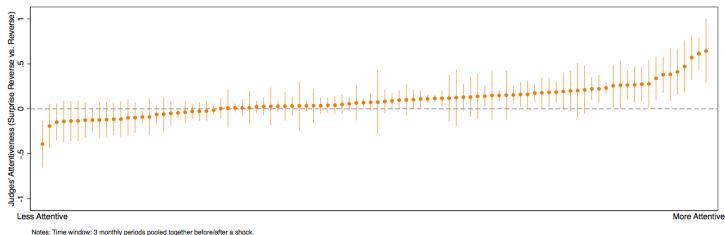
After “Surprise” Reversals, Judges Grant More Asylum and Hold More Hearing Sessions



Surprise Reversal is a reversal of a decision that was predicted to be “Affirm”

See also *Posner, HUP 2010*

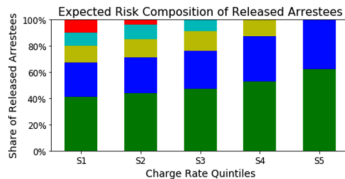
Judges Vary in Responsiveness to Reversal



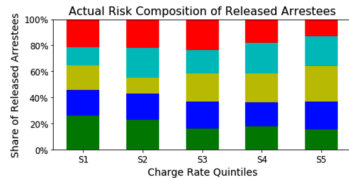
Do less attentive judges have implicit risk rankings closer to random?



Robot Prosecutors



Human Prosecutors

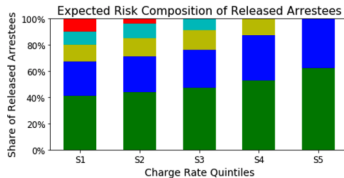


- If defendants released based only on risk score, the harshest prosecutors would only be releasing low-risk defendants.
- Distribution of risk scores for released defendants is similar for most lenient and least lenient prosecutors.
- Are the lenient asylum judges, only denying the 'riskiest' applicants
 - ▶ i.e., seeing the lowest reversal rates (of their asylum denials)?

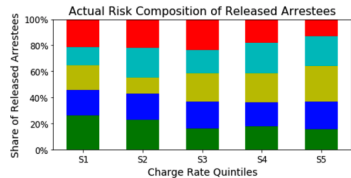
See also Kleinberg, Lakkaraju, Leskovec, Ludwig, Mullainathan, QJE 2017



Robot Prosecutors

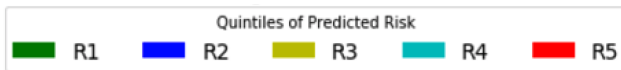


Human Prosecutors

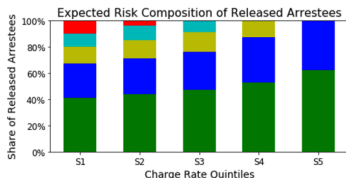


- If defendants released based only on risk score, the harshest prosecutors would only be releasing low-risk defendants.
- Distribution of risk scores for released defendants is similar for most lenient and least lenient prosecutors.
- Are the lenient asylum judges, only denying the 'riskiest' applicants
 - ▶ i.e., seeing the lowest reversal rates (of their asylum denials)?

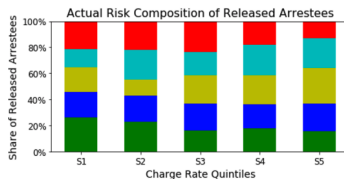
See also Kleinberg, Lakkaraju, Leskovec, Ludwig, Mullainathan, QJE 2017



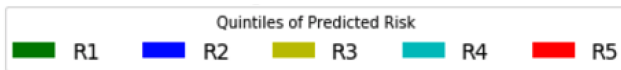
Robot Prosecutors



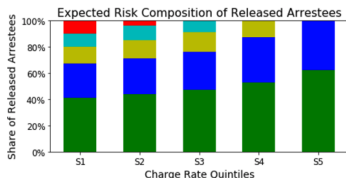
Human Prosecutors



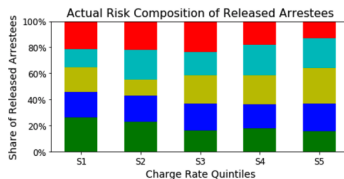
- If defendants released based only on risk score, the harshest prosecutors would only be releasing low-risk defendants.
- Distribution of risk scores for released defendants is similar for most lenient and least lenient prosecutors.
- Are the lenient asylum judges, only denying the 'riskiest' applicants
 - ▶ i.e., seeing the lowest reversal rates (of their asylum denials)?



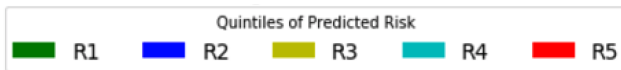
Robot Prosecutors



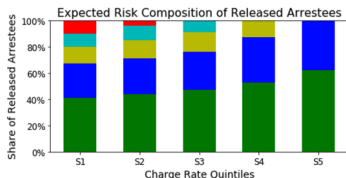
Human Prosecutors



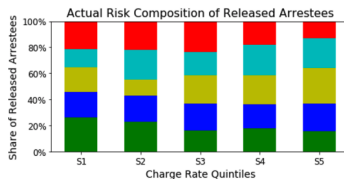
- If defendants released based only on risk score, the harshest prosecutors would only be releasing low-risk defendants.
- Distribution of risk scores for released defendants is similar for most lenient and least lenient prosecutors.
- Are the lenient asylum judges, only denying the 'riskiest' applicants
 - ▶ i.e., seeing the lowest reversal rates (of their asylum denials)?



Robot Prosecutors



Human Prosecutors



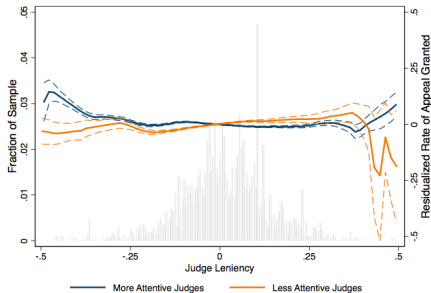
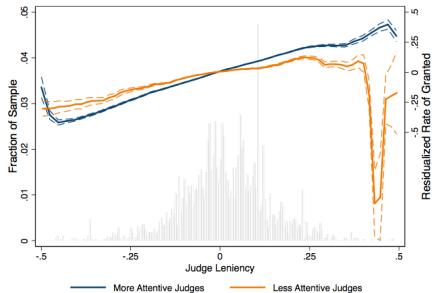
- If defendants released based only on risk score, the harshest prosecutors would only be releasing low-risk defendants.
- Distribution of risk scores for released defendants is similar for most lenient and least lenient prosecutors.
- Are the lenient asylum judges, only denying the 'riskiest' applicants
 - ▶ i.e., seeing the lowest reversal rates (of their asylum denials)?

See also Kleinberg, Lakkaraju, Leskovec, Ludwig, Mullainathan, QJE 2017

Left Figure: Judges have strong habits

A judge who is generally lenient in other cases is likely to be lenient in a given case

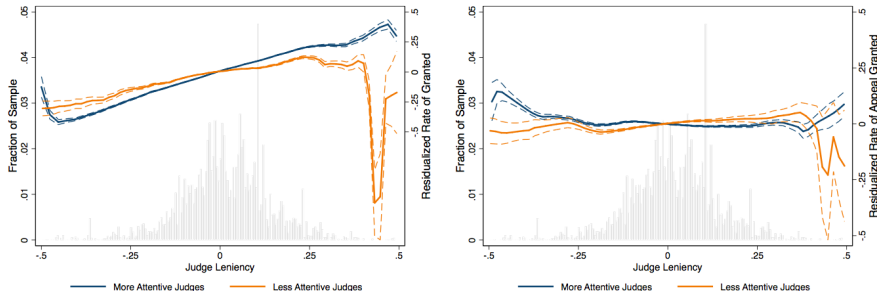
Inattentiveness of Judge: Surprisingly Reversed vs. Reversed



(Time window: 3 monthly periods pooled together before/after shock. More attentiveness: the coefficient of interaction of surprisingly reversed dummy and time-period dummy is bigger)

Right Figure: Assess implicit risk ranking

Inattentiveness of Judge: Surprisingly Reversed vs. Reversed



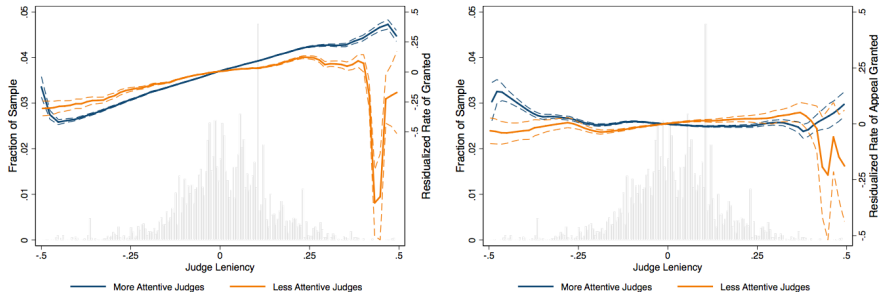
(Time window: 3 monthly periods pooled together before/after shock. More attentiveness: the coefficient of interaction of surprisingly reversed dummy and time-period dummy is bigger)

If judges are 'ordering' their asylees, the most lenient judge letting in the most applicants should be rejecting only the "least safe" applicants

Their appeal success should be lower, which we see among **more attentive judges**

.. but not less attentive judges

Inattentiveness of Judge: Surprisingly Reversed vs. Reversed

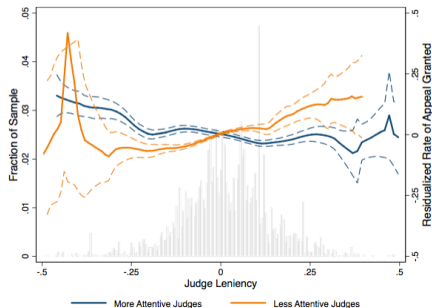
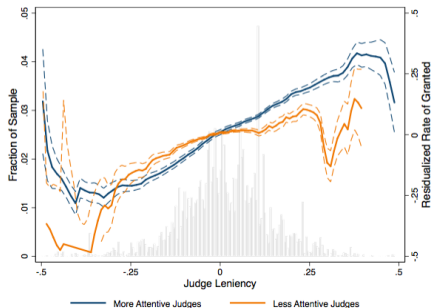


(Time window: 3 monthly periods pooled together before/after shock. More attentiveness: the coefficient of interaction of surprisingly reversed dummy and time-period dummy is bigger)

.. who may be more prone to other extraneous factors

Difference in Indifference for asylees from the Global South

African Applicants



Judicial Analytics for Recognition and Dignity

- Cognitive science and psychology suggests that humans have limited and imperfect reasoning capacities (Tversky and Kahneman 1986; Eyster 2019)
- Gambler's fallacy, mood, time of day, order, ...
 - ▶ highlight fragility of courts
 - ★ "In a crowded immigration court, 7 minutes to decide a family's future" (Wash Post 2/2/14)
- Policy discussion tends to revolve around having AI replace humans or suggest the optimal decision
- Consider instead an incremental approach that shows decision-makers their predicted self and then uses predictions of error to nudge

Judicial Analytics for Recognition and Dignity

- Cognitive science and psychology suggests that humans have limited and imperfect reasoning capacities (Tversky and Kahneman 1986; Eyster 2019)
- Gambler's fallacy, mood, time of day, order, ...
 - ▶ highlight fragility of courts
 - ★ "In a crowded immigration court, 7 minutes to decide a family's future" (Wash Post 2/2/14)
- Policy discussion tends to revolve around having AI replace humans or suggest the optimal decision
- Consider instead an incremental approach that shows decision-makers their predicted self and then uses predictions of error to nudge

Judicial Analytics for Recognition and Dignity

- Cognitive science and psychology suggests that humans have limited and imperfect reasoning capacities (Tversky and Kahneman 1986; Eyster 2019)
- Gambler's fallacy, mood, time of day, order, ...
 - ▶ highlight fragility of courts
 - ★ "In a crowded immigration court, 7 minutes to decide a family's future" (Wash Post 2/2/14)
- Policy discussion tends to revolve around having AI replace humans or suggest the optimal decision
- Consider instead an incremental approach that shows decision-makers their predicted self and then uses predictions of error to nudge

Judicial Analytics for Recognition and Dignity

- Cognitive science and psychology suggests that humans have limited and imperfect reasoning capacities (Tversky and Kahneman 1986; Eyster 2019)
- Gambler's fallacy, mood, time of day, order, ...
 - ▶ highlight fragility of courts
 - ★ "In a crowded immigration court, 7 minutes to decide a family's future" (Wash Post 2/2/14)
- Policy discussion tends to revolve around having AI replace humans or suggest the optimal decision
- Consider instead an incremental approach that shows decision-makers their predicted self and then uses predictions of error to nudge

Judicial Analytics for Recognition and Dignity

- Cognitive science and psychology suggests that humans have limited and imperfect reasoning capacities (Tversky and Kahneman 1986; Eyster 2019)
- Gambler's fallacy, mood, time of day, order, ...
 - ▶ highlight fragility of courts
 - ★ "In a crowded immigration court, 7 minutes to decide a family's future" (Wash Post 2/2/14)
- Policy discussion tends to revolve around having AI replace humans or suggest the optimal decision
- Consider instead an incremental approach that shows decision-makers their predicted self and then uses predictions of error to nudge

Judicial Analytics for Recognition and Dignity

Stage 1: Predicted Self

- In Stage 1, people use AI as a support tool, speeding up existing processes (for example, by prefilling forms)
 - ▶ An AI-based recommender system offers a decision-maker the best prediction of themselves, based on their previous decision-making, **from a model using only legally relevant features X**.
 - ★ assess judges vs. their predicted self
 - ▶ (1) Increase consistency across similar cases by offering the relevant reference points and cabining the influence of extraneous factors.
 - ▶ (2) Deviating from defaults facilitates conscious deliberation.
 - ▶ (3) Seeing the predicted self leverages self-image motives of pro-social decision-makers (Benabou and Tirole QJE 2011).
- self-image (predicted self)

Stage 1: Predicted Self

- In Stage 1, people use AI as a support tool, speeding up existing processes (for example, by prefilling forms)
 - ▶ An AI-based recommender system offers a decision-maker the best prediction of themselves, based on their previous decision-making, **from a model using only legally relevant features X.**
 - ★ assess judges vs. their predicted self
 - ▶ (1) Increase consistency across similar cases by offering the relevant reference points and cabining the influence of extraneous factors.
 - ▶ (2) Deviating from defaults facilitates conscious deliberation.
 - ▶ (3) Seeing the predicted self leverages self-image motives of pro-social decision-makers (Benabou and Tirole QJE 2011).
- self-image (predicted self)

Stage 1: Predicted Self

- In Stage 1, people use AI as a support tool, speeding up existing processes (for example, by prefilling forms)
 - ▶ An AI-based recommender system offers a decision-maker the best prediction of themselves, based on their previous decision-making, **from a model using only legally relevant features X.**
 - ★ assess judges vs. their predicted self
 - ▶ (1) Increase consistency across similar cases by offering the relevant reference points and cabining the influence of extraneous factors.
 - ▶ (2) Deviating from defaults facilitates conscious deliberation.
 - ▶ (3) Seeing the predicted self leverages self-image motives of pro-social decision-makers (Benabou and Tirole QJE 2011).
- self-image (predicted self)

Stage 1: Predicted Self

- In Stage 1, people use AI as a support tool, speeding up existing processes (for example, by prefilling forms)
 - ▶ An AI-based recommender system offers a decision-maker the best prediction of themselves, based on their previous decision-making, **from a model using only legally relevant features X.**
 - ★ assess judges vs. their predicted self
 - ▶ (1) Increase consistency across similar cases by offering the relevant reference points and cabining the influence of extraneous factors.
 - ▶ (2) Deviating from defaults facilitates conscious deliberation.
 - ▶ (3) Seeing the predicted self leverages self-image motives of pro-social decision-makers (Benabou and Tirole QJE 2011).
- self-image (predicted self)

Stage 1: Predicted Self

- In Stage 1, people use AI as a support tool, speeding up existing processes (for example, by prefilling forms)
 - ▶ An AI-based recommender system offers a decision-maker the best prediction of themselves, based on their previous decision-making, **from a model using only legally relevant features X**.
 - ★ assess judges vs. their predicted self
 - ▶ (1) Increase consistency across similar cases by offering the relevant reference points and cabining the influence of extraneous factors.
 - ▶ (2) Deviating from defaults facilitates conscious deliberation.
 - ▶ (3) Seeing the predicted self leverages self-image motives of pro-social decision-makers (Benabou and Tirole QJE 2011).
- self-image (predicted self)

Stage 2: Prediction of Error

- A deviation that is more likely to render an error (from a model using all available features X and W) can be accompanied by a nudge to “be more attentive” or spend more time to make a better decision.
 - ▶ (1) A nudge, instead of a checklist, might impose less bandwidth.
 - ▶ (2) Save time and energy to focus on novel, complex cases.
- self-improvement (nudges)

Stage 3: Explanations

- A decision-maker may want interpretable machine learning **and** request a reason for why the deviation may lead to mistakes.
 - ▶ (1) Stage 3 elevates the AI to the role of a more general coach, providing feedback on choices.
 - ▶ (2) The more people feel that their autonomy is protected and that they are in control of the conversation—able to choose when feedback is given—the better they respond to it. (West and Thorson 2018)
- self-understanding (why)

Stage 4: Dialogue

- Of course, it is always possible that the AI system's suggestion would not take into account some reliable private information that the decision-maker might have access to.
 - ▶ Where this happens, the AI system would be steering the decision-maker off course rather than correcting for their inconsistencies.
 - ▶ Therefore, a dialogue, encouraged between the decision-maker and the AI system, allowing for the AI to learn from the user as well.
- self-expression (autonomy)

Stage 5: Community of Experts

- AI brings in other people's decision histories and patterns, serving as a platform for a community of experts.
 - ▶ A decision-maker may want to access a community of experts by seeing what the algorithm predicts other to do.
 - ▶ This can be accessible as a dropdown menu, to seek advice from a particular decision-maker,
 - ★ or as a statistical distribution to protect privacy.
- community of practice (self vs. others)

Stages 6+

- Stage 6, experts advised it helps train novices
 - ▶ who tend to make more mistakes
 - ▶ experts can input a preferred decision
 - ▶ or use prediction if appealed
- Stage 7, WebMD for litigants, increasing access to justice
 - ▶ and transparency & accountability
- Stage 8, knowledge of one's impact
- Stage 9, use feedback from dialogue stage as recommender system
 - ▶ with A/B testing to generate personalized causal inference

Stages 6+

- Stage 6, experts advised it helps train novices
 - ▶ who tend to make more mistakes
 - ▶ experts can input a preferred decision
 - ▶ or use prediction if appealed
- Stage 7, WebMD for litigants, increasing access to justice
 - ▶ and transparency & accountability
- Stage 8, knowledge of one's impact
- Stage 9, use feedback from dialogue stage as recommender system
 - ▶ with A/B testing to generate personalized causal inference

Stages 6+

- Stage 6, experts advised it helps train novices
 - ▶ who tend to make more mistakes
 - ▶ experts can input a preferred decision
 - ▶ or use prediction if appealed
- Stage 7, WebMD for litigants, increasing access to justice
 - ▶ and transparency & accountability
- Stage 8, knowledge of one's impact
- Stage 9, use feedback from dialogue stage as recommender system
 - ▶ with A/B testing to generate personalized causal inference

Stages 6+

- Stage 6, experts advised it helps train novices
 - ▶ who tend to make more mistakes
 - ▶ experts can input a preferred decision
 - ▶ or use prediction if appealed
- Stage 7, WebMD for litigants, increasing access to justice
 - ▶ and transparency & accountability
- Stage 8, knowledge of one's impact
- Stage 9, use feedback from dialogue stage as recommender system
 - ▶ with A|B testing to generate personalized causal inference

Addresses Common Criticisms of AI in Law

- Reduces Bias
 - ▶ Assess judges vs. their predicted self
- Increase Autonomy
 - ▶ Support tool / default
- Enhance Learning
 - ▶ Pointing out when predicted to error + community of practice
- Explainable Transparency
 - ▶ Interpretable ML
- Incorporate Private Information / Changed Circumstances
 - ▶ AI can ask why user deviates

Addresses Common Criticisms of AI in Law

- Reduces Bias
 - ▶ Assess judges vs. their predicted self
- Increase Autonomy
 - ▶ Support tool / default
- Enhance Learning
 - ▶ Pointing out when predicted to error + community of practice
- Explainable Transparency
 - ▶ Interpretable ML
- Incorporate Private Information / Changed Circumstances
 - ▶ AI can ask why user deviates

Addresses Common Criticisms of AI in Law

- Reduces Bias
 - ▶ Assess judges vs. their predicted self
- Increase Autonomy
 - ▶ Support tool / default
- Enhance Learning
 - ▶ Pointing out when predicted to error + community of practice
- Explainable Transparency
 - ▶ Interpretable ML
- Incorporate Private Information / Changed Circumstances
 - ▶ AI can ask why user deviates

Addresses Common Criticisms of AI in Law

- Reduces Bias
 - ▶ Assess judges vs. their predicted self
- Increase Autonomy
 - ▶ Support tool / default
- Enhance Learning
 - ▶ Pointing out when predicted to error + community of practice
- Explainable Transparency
 - ▶ Interpretable ML
- Incorporate Private Information / Changed Circumstances
 - ▶ AI can ask why user deviates

Addresses Common Criticisms of AI in Law

- Reduces Bias
 - ▶ Assess judges vs. their predicted self
- Increase Autonomy
 - ▶ Support tool / default
- Enhance Learning
 - ▶ Pointing out when predicted to error + community of practice
- Explainable Transparency
 - ▶ Interpretable ML
- Incorporate Private Information / Changed Circumstances
 - ▶ AI can ask why user deviates

Addresses Common Criticisms of AI in Law

- Reduces Bias
 - ▶ Assess judges vs. their predicted self
- Increase Autonomy
 - ▶ Support tool / default
- Enhance Learning
 - ▶ Pointing out when predicted to error + community of practice
- Explainable Transparency
 - ▶ Interpretable ML
- Incorporate Private Information / Changed Circumstances
 - ▶ AI can ask why user deviates

Proof of Concept

Schedule Type	Detained Master Reset
Judge	John Milo Bryant
Hearing City	ADELANTO
Asylum type	Affirmative
Hearing Language	ABRON
Attorney present?	Yes
Case Type	ASYLUM ONLY CASE
Hearing Location	DHS-LITIGATION UNIT/OAKDALE (ADC)
Nationality	ANTIGUA AND BARBUDA
Adjudication Medium	N
Base City	ADELANTO
View Prediction	

- Can incremental AI work?

Proof of Concept

Schedule Type	Detained Master Reset
Judge	John Milo Bryant
Hearing City	ADELANTO
Asylum type	Affirmative
Hearing Language	ABRON
Attorney present?	Yes
Case Type	ASYLUM ONLY CASE
Hearing Location	DHS-LITIGATION UNIT/OAKDALE (ADC)
Nationality	ANTIGUA AND BARBUDA
Adjudication Medium	N
Base City	ADELANTO
View Prediction	

- Can incremental AI work?

Testing the Stages of Incremental AI



- Recent innovations have opened up new opportunities for delivery of justice
 - ▶ Increasingly digitized large-scale datasets
 - ▶ ML applications to produce interpretable data from unstructured text
 - ▶ Predictive models of decision-making to better understand biases and address them with digital interfaces

Testing the Stages of Incremental AI



Ministarstvo pravosuđa

Table with multiple columns and rows of data.

CROATIA

- Recent innovations have opened up new opportunities for delivery of justice
 - ▶ Increasingly digitized large-scale datasets
 - ▶ ML applications to produce interpretable data from unstructured text
 - ▶ Predictive models of decision-making to better understand biases and address them with digital interfaces

Testing the Stages of Incremental AI



CROATIA

- Recent innovations have opened up new opportunities for delivery of justice
 - Increasingly digitized large-scale datasets
 - ML applications to produce interpretable data from unstructured text
 - Predictive models of decision-making to better understand biases and address them with digital interfaces

Testing the Stages of Incremental AI



Ministarstvo pravosuđa

Table with multiple columns and rows of data.

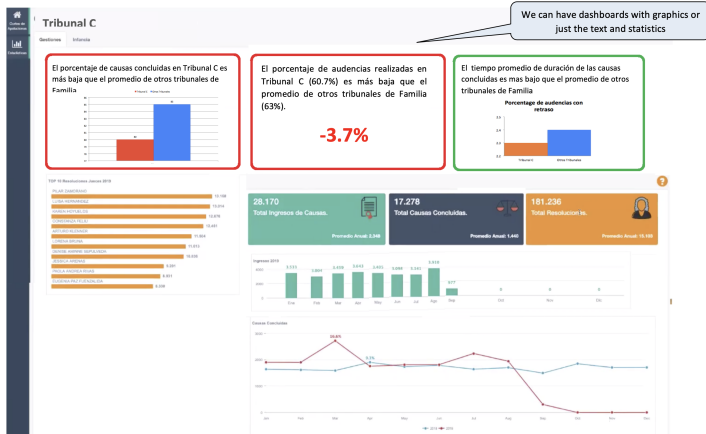
CROATIA

- Recent innovations have opened up new opportunities for delivery of justice
 - Increasingly digitized large-scale datasets
 - ML applications to produce interpretable data from unstructured text
 - Predictive models of decision-making to better understand biases and address them with digital interfaces

Personalized Interventions

This kind of data can be used to personalize interfaces for judges.

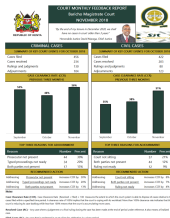
Another possibility for an algorithm is to choose the **three worst metrics** as oppose to just one.



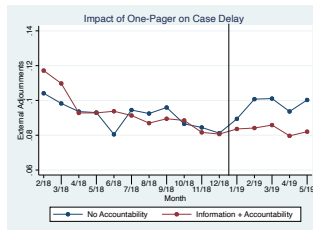
Recommending Actions

Algorithms identified the greatest sources of court delays

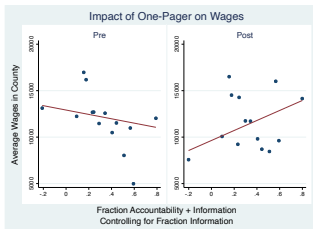
Information and accountability



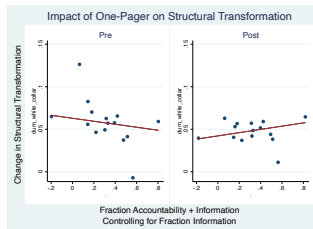
increased speed of justice



increased wages

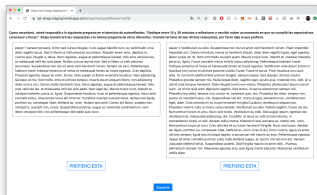


and spurred structural transformation



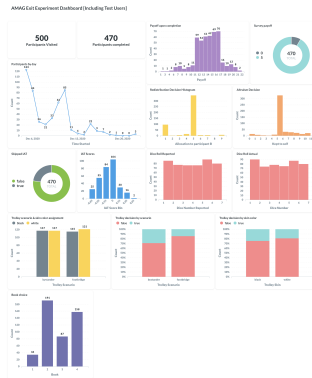
Self Reflection

10 months-long intervention



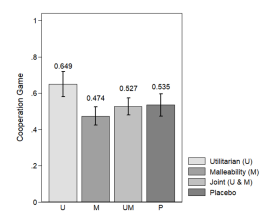
See also *Eskreis-Winkler, et. al PNAS 2019*

reduced gender bias (measured in IATs)

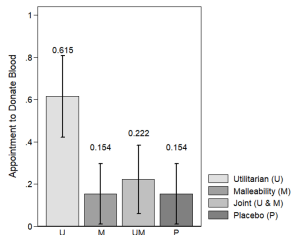


Training Empathy

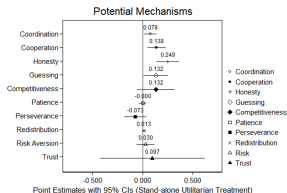
Increased altruism, cooperation



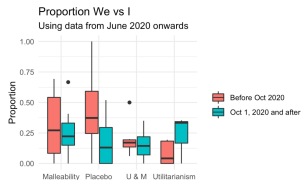
blood donations, orphange visits



coordination, honesty, theory of mind

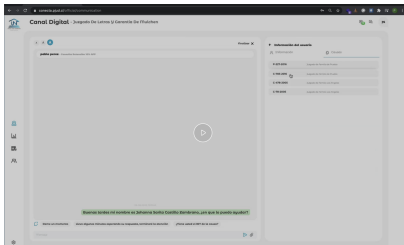


language of social cohesion in social media

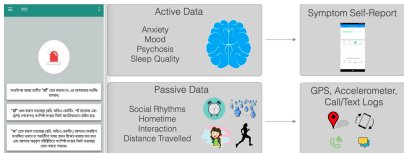


E-Justice Innovations

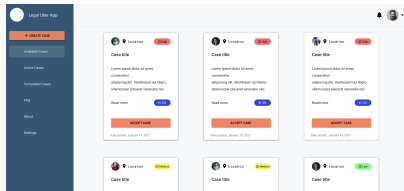
WhatsApp Access to Courts



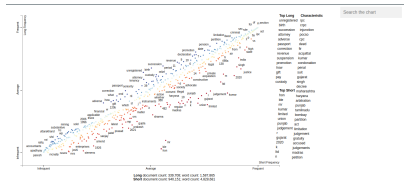
apps for missing cases



uber-ization of case backlog



open legal search engines

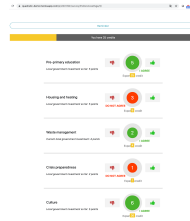
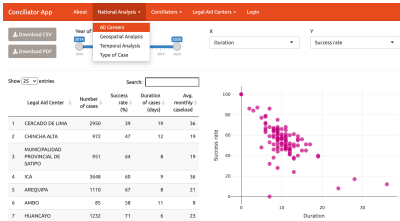


Incremental AI

Open source no-code tools for

data entry and decision-support

understanding justice needs



learning best practices

increasing recognition-respect

The form includes a login section and a strategy entry section:

Enter the third case type: TODAS

Describe the strategy you most used or found most useful (50 words or fewer):

How effective was this strategy toward reaching an agreement? (70 is the most effective):

Submit



Can AI assist asylum-seekers, advocates and case workers?

Asylum Case Predictor

[Home](#) | [About](#)

State

Select a state

Attorney present?

☒ Yes ☐ No

Nationality

CHINA

Asylum type

☐ Defensive ☐ Affirmative

Case Type

☐ REMOVAL
☐ ASYLUM ONLY CASE
☐ DEPORTATION

- Stage 7, WebMD for litigants, increasing access to justice
 - ▶ and transparency & accountability
- Offer 80K hand-labeled legal arguments to “google translate” judges (CGRS)
 - ▶ Crowdsource unstructured advocates’ notes & e-forums (IRAP)
 - ▶ WhatsApp network (5K joining weekly from 140+ countries) (ASAP)
 - ▶ Train novice advocates (HIAS)
 - ▶ Interactive dashboards for structural change (Innovation Lab)

Can AI assist asylum-seekers, advocates and case workers?

Asylum Case Predictor

[Home](#) | [About](#)

State

Select a state

Attorney present?

☒ Yes ☐ No

Nationality

CHINA

Asylum type

☐ Defensive ☐ Affirmative

Case Type

☐ REMOVAL
☐ ASYLUM ONLY CASE
☐ DEPORTATION

- Stage 7, WebMD for litigants, increasing access to justice
 - ▶ and transparency & accountability
- Offer 80K hand-labeled legal arguments to “google translate” judges (CGRS)
 - ▶ Crowdsource unstructured advocates’ notes & e-forums (IRAP)
 - ▶ WhatsApp network (5K joining weekly from 140+ countries) (ASAP)
 - ▶ Train novice advocates (HIAS)
 - ▶ Interactive dashboards for structural change (Innovation Lab)

Can AI assist asylum-seekers, advocates and case workers?

Asylum Case Predictor

[Home](#) | [About](#)

State

Select a state

Attorney present?

☒ Yes ☐ No

Nationality

CHINA

Asylum type

☐ Defensive ☐ Affirmative

Case Type

☐ REMOVAL
☐ ASYLUM ONLY CASE
☐ DEPORTATION

- Stage 7, WebMD for litigants, increasing access to justice
 - ▶ and transparency & accountability
- Offer 80K hand-labeled legal arguments to “google translate” judges (CGRS)
 - ▶ Crowdsource unstructured advocates' notes & e-forums (IRAP)
 - ▶ WhatsApp network (5K joining weekly from 140+ countries) (ASAP)
 - ▶ Train novice advocates (HIAS)
 - ▶ Interactive dashboards for structural change (Innovation Lab)

Can AI assist asylum-seekers, advocates and case workers?

Asylum Case Predictor

[Home](#) | [About](#)

State

Select a state

Attorney present?

☒ Yes ☐ No

Nationality

CHINA

Asylum type

☐ Defensive ☐ Affirmative

Case Type

☐ REMOVAL
☐ ASYLUM ONLY CASE
☐ DEPORTATION

- Stage 7, WebMD for litigants, increasing access to justice
 - ▶ and transparency & accountability
- Offer 80K hand-labeled legal arguments to “google translate” judges (CGRS)
 - ▶ Crowdsource unstructured advocates’ notes & e-forums (IRAP)
 - ▶ WhatsApp network (5K joining weekly from 140+ countries) (ASAP)
 - ▶ Train novice advocates (HIAS)
 - ▶ Interactive dashboards for structural change (Innovation Lab)

Can AI assist asylum-seekers, advocates and case workers?

Asylum Case Predictor

[Home](#) | [About](#)

State

Select a state

Attorney present?

☒ Yes ☐ No

Nationality

CHINA

Asylum type

☐ Defensive ☐ Affirmative

Case Type

☐ REMOVAL
☐ ASYLUM ONLY CASE
☐ DEPORTATION

- Stage 7, WebMD for litigants, increasing access to justice
 - ▶ and transparency & accountability
- Offer 80K hand-labeled legal arguments to “google translate” judges (CGRS)
 - ▶ Crowdsource unstructured advocates’ notes & e-forums (IRAP)
 - ▶ WhatsApp network (5K joining weekly from 140+ countries) (ASAP)
 - ▶ Train novice advocates (HIAS)
 - ▶ Interactive dashboards for structural change (Innovation Lab)

Can AI assist asylum-seekers, advocates and case workers?

Asylum Case Predictor

[Home](#) | [About](#)

State

Select a state

Attorney present?

☒ Yes ☐ No

Nationality

CHINA

Asylum type

☐ Defensive ☐ Affirmative

Case Type

☐ REMOVAL
☐ ASYLUM ONLY CASE
☐ DEPORTATION

- Stage 7, WebMD for litigants, increasing access to justice
 - ▶ and transparency & accountability
- Offer 80K hand-labeled legal arguments to “google translate” judges (CGRS)
 - ▶ Crowdsource unstructured advocates’ notes & e-forums (IRAP)
 - ▶ WhatsApp network (5K joining weekly from 140+ countries) (ASAP)
 - ▶ Train novice advocates (HIAS)
 - ▶ Interactive dashboards for structural change (Innovation Lab)

Can AI assist asylum-seekers, advocates and case workers?

Asylum Case Predictor

[Home](#) | [About](#)

State

Select a state

Attorney present?

☒ Yes ☐ No

Nationality

CHINA

Asylum type

☐ Defensive ☐ Affirmative

Case Type

☐ REMOVAL
☐ ASYLUM ONLY CASE
☐ DEPORTATION

- Stage 7, WebMD for litigants, increasing access to justice
 - ▶ and transparency & accountability
- Offer 80K hand-labeled legal arguments to “google translate” judges (CGRS)
 - ▶ Crowdsource unstructured advocates’ notes & e-forums (IRAP)
 - ▶ WhatsApp network (5K joining weekly from 140+ countries) (ASAP)
 - ▶ Train novice advocates (HIAS)
 - ▶ Interactive dashboards for structural change (Innovation Lab)