JUDICATA

Startup Engineering - Guest Lecture
coursera.org/course/startup

Adam Hahn

# JUDICATA

Mapping the legal genome

BACKGROUND

- Mapping the legal genome

  - Highly-specialized case law parsing

  - Algorithmically-assisted human review

- Turning unstructured court opinions into structured data

- Helping lawyers make sense of massive amounts of information

- Parsing 21M case law sentences, 77M component attributes

ADAM HAHN

- Stanford CS '08

- Co-Founder & CTO

- Involved in every decision

  - Pre-commit code review

  - Continuous deployment

  - Data representation
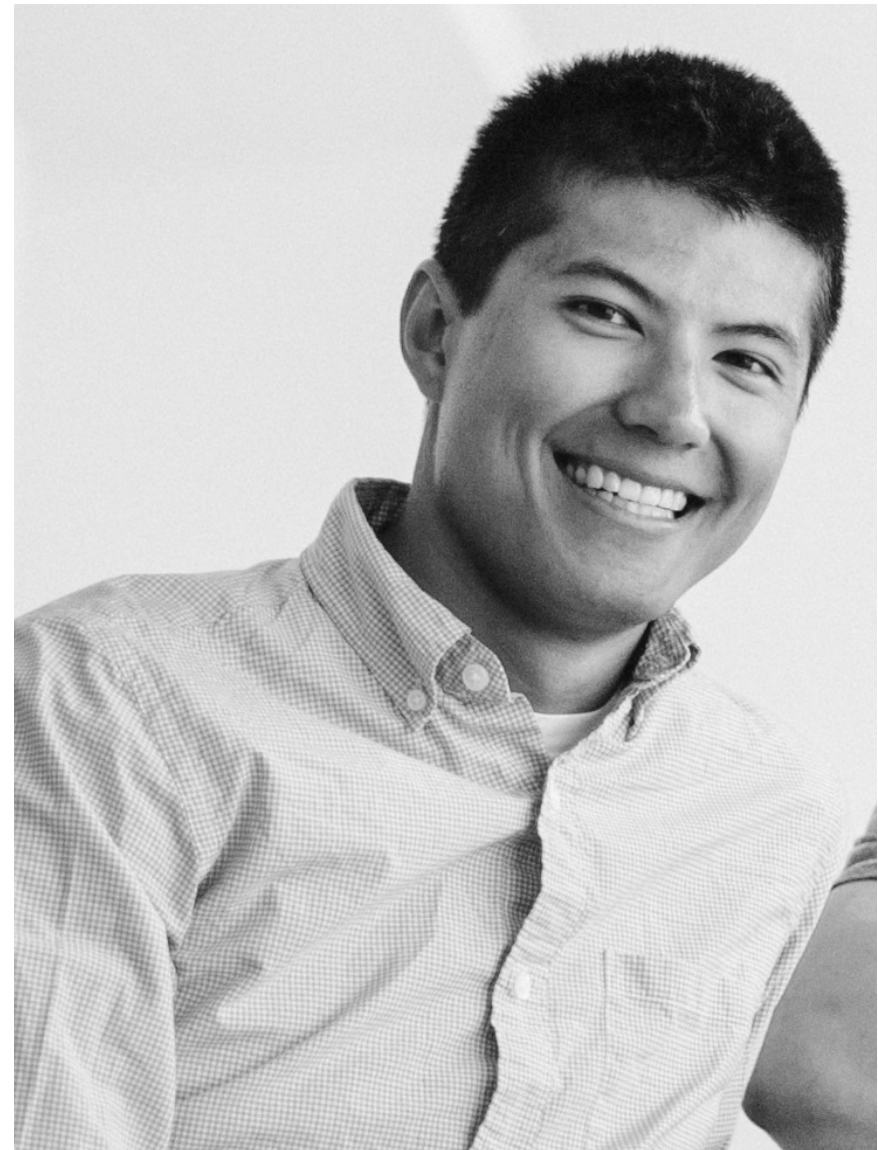
COMMON LAW

- *Chimel* v. *California*, 395 U.S. 752 (1969)

- *New York* v. *Belton*, 453 U.S. 454 (1981)

- *Arizona* v. *Gant*, 556 U.S. 332 (2009)

police practice to the point where the warnings have become part of our national culture," 530 U. S., at 443, the Court was referring not to police reliance on a rule requiring them to provide warnings but to the broader societal reliance on that individual right.

The dissent also ignores the checkered history of the search-incident-to-arrest exception. Police authority to search the place in which a lawful arrest is made was broadly asserted in *Marron* v. *United States*, 275 U. S. 192 (1927), and limited a few years later in *Go-Bart Importing Co.* v. *United States*, 282 U. S. 344 (1931), and *United States* v. *Lefkowitz*, 285 U. S. 452 (1932). The limiting views expressed in *Go-Bart* and *Lefokwitz* were in turn abandoned in *Harris* v. *United States*, 331 U. S. 145 (1947), which upheld a search of a four-room apartment incident to the occupant's arrest. Only a year later the Court in *Trupiano* v. *United States*, 334 U. S. 699, 708 (1948), retreated from that holding, noting that the search-incident-to-arrest exception is "a strictly limited" one that must be justified by "something more in the way of necessity than merely a lawful arrest." And just two years after that, in *United States* v. *Rabinowitz*, 339 U. S. 56 (1950), the Court again reversed course and upheld the search of an entire apartment. Finally, our opinion in *Chimel* overruled *Rabinowitz* and what remained of *Harris* and established the present boundaries of the search-incident-to-arrest exception. Notably, none of the dissenters in *Chimel* or the cases that preceded it argued that law enforcement reliance interests outweighed the interest in protecting individual constitutional rights so as to warrant fidelity to an unjustifiable rule.

The experience of the 28 years since we decided *Belton* has shown that the generalization underpinning the broad reading of that decision is unfounded. We now know that articles inside the passenger compartment are rarely "within 'the area into which an arrestee might reach,'" 453

Applying its test to the facts presented, the *Akers* court concluded that "a mere oral or written criticism of an employee or a transfer into a comparable position does not meet the definition of an adverse employment action under FEHA." (*Akers, supra, 95 Cal.App.4th at p. 1457, 116 Cal. Rptr.2d 602*.) It dismissed *Brooks*, a Ninth Circuit case which followed *Ray, supra, 217 F.3d 1234* and applied *Ray*'s test, in a one-sentence footnote: "To the extent the Ninth Circuit Court of Appeals has reached an opposite conclusion under Title VII (*Brooks v. City of San Mateo, supra, 229 F.3d at p. 928*), we find this view unpersuasive." (*Akers, at p. 1457, fn. 4, 116 Cal.Rptr.2d 602*.) *Akers* nevertheless affirmed the trial court judgment, presumably on the basis that the employer's threats and refusal to grant a transfer to the elder abuse unit showed a material change in Akers's employment. (*Id. at p. 1457, 116 Cal.Rptr.2d 602*.)

Thomas was decided before *Ray* and did not have the benefit of the Ninth Circuit's analysis. *Akers* was decided after *Ray* but did not cite or discuss the EEOC's (Equal Employment Opportunity Commission) definition or explain its disagreement with *Brooks*. For these reasons, we do not find them dispositive in deciding whether to apply the materiality test or the deterrence test. We find potential problems with the application of a materiality test. For one, no clear benchmarks exist for measuring what is "substantial" or "material." For another, this limitation establishes an arbitrary threshold untethered to what *Akers* recognizes as the core concern underlying the FEHA and *Title VII* antiretaliation provisions: the need to prevent employers from chilling protected activity. (See *Akers, supra, 95 Cal.App.4th at p. 1455, 116 Cal.Rptr.2d 602*.)

Judicata Raises $2M From Peter Thiel, Keith Rabois And Others To Give Lawyers Better Research And Analytics Tools

DARRELL ETHERINGTON ⌄

Tuesday, December 11th, 2012   **7 Comments**

Legal startup **Judicata** today announced a $2 million investment round from Peter Thiel, David Lee, Keith Rabois and Box founders Aaron Levie and Dylan Smith. The company wants to build better research and analytics tools for lawyers, in a way that dramatically changes the landscape of legal software, which Judicata founder Blake Masters describes as "notoriously inefficient and outdated" in a **blog post** announcing the news.

Judicata's mission is ambitious, which is likely why it hasn't been undertaken in quite the same way before. Masters argues that previous attempts have only addressed symptoms and offshoots of the problems facing legal software and how it works for lawyers. Instead, the startup wants to take the mass of unstructured data represented by the body of case law that exists, and turn it into something structured, searchable and fully, properly indexed for targeted use. Judicata's mission involves what it calls "mapping the legal genome," which is a fancy way of saying it hopes to combine algorithmic, machine learning approaches to ingesting the mass of legal data and turning out something useful with careful human review to guarantee the accuracy of results.

Blake Masters

"Your mind is software. Program it. Your body is a shell. Change it. Death is a disease. Cure it. Extinction is approaching. Fight it."

December 11, 2012   <u>18 notes</u>

Judicata: The Path of the Law

I'm delighted to announce that my startup, <u>Judicata</u>, has raised $2 million from Peter Thiel, David Lee of SV Angel, Keith Rabois, and Box founders Aaron Levie and Dylan Smith.[1] Our mission is clear: to build legal research and analytics products that dramatically advance what lawyers can do.

Legal technology is at something of a crossroads. On one hand, it is notoriously inefficient and outdated, and has been for quite some time. On the other hand—to use Marc Andreessen's parlance—software is eating the world.[2] We can imagine a few different futures unfolding. One would entail the continued stagnation of the status quo. Another would involve minor, halting changes that never quite deliver on their promises. A third would see truly innovative technology that empowers lawyers to argue better and do more than ever before.

JUDICATA
ENGINEERING

DEV TOOLS

- MacBook Air/Pro

  - `brew install postgresql htop parallel tree watch…`

  - iTerm (or `tmux`)

- Editor-agnostic (but `vim` is best)

- Chrome + ⌥⌘J ([learn all about it](#))

- New Relic

The blog that blows up once every 20 years: In the Light of the Law | A Canon Lawyer's Blog (canonlawblog.wordpress.com)

9 **2** (2|0) submitted 7 days ago by aphahn

1 comment   share   save   hide   delete   spam   remove   approve   nsfw   [l+c]

If America Was A Startup, We'd All Quit (techcrunch.com)

0 **2** (2|0) submitted 7 days ago by kinggps [+1]

3 comments   share   save   hide   spam   remove   approve   nsfw   [l+c]

In 1985, Mel Mermelstein successfully sued the Institute for Historical Review to force them to award him a $50,000 prize Auschwitz. The fact was taken as judicial notice. (en.wikipedia.org)

1 **2** (2|0) submitted 8 days ago by pkrecker [+4]

1 comment   share   save   hide   spam   remove   approve   nsfw   [l+c]

The history behind bee law is surprisingly rich (reddit.com)

2 **2** (2|0) submitted 8 days ago by pkrecker [+4]

2 comments   share   save   hide   spam   remove   approve   nsfw   [l+c]

Sotomayor shames AUSA for the Western District of Texas: "I hope never to see a case like this again." (supremecourt.gov)

3 **2** (2|0) submitted 8 days ago by aphahn

1 comment   share   save   hide   delete   spam   remove   approve   nsfw   [l+c]

"Add two-factor auth to your service in less than 10 lines of code" (gauthify.com)

4 **2** (2|0) submitted 8 days ago by hundt [+6]

comment   share   save   hide   spam   remove   approve   nsfw   [l+c]

Getting rid of Vernon, CA (the industrial haven of Los Angeles County) (nytimes.com)

5 **2** (2|0) submitted 12 days ago by aphahn

1 comment   share   save   hide   delete   spam   remove   approve   nsfw   [l+c]

IKE'S PLACE SFSU Everything is better with dirty sauce.

MENAGE A TROIS

Halal chicken, real honey, honey mustard, bbq, pepper jack, swiss, cheddar

$11.11 Add to cart

GOING HOME FOR THANKSGIVING

Turkey, cranberry sauce, sriracha, havarti

$8.98 Add to cart

MATT CAIN

Roast beef, turkey, salami, godfather sauce, provolone

$9.99 Add to cart

PAUL REUBENS

Pastrami, homemade poppy seed coleslaw, french dressing, swiss

$9.99 Add to cart

PHIL'EM UP'S KC BBQ

Hot roast beef, BBQ, cheddar
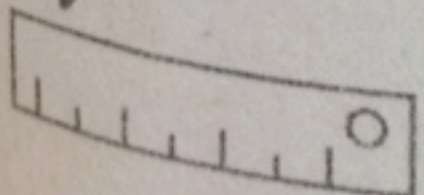
$8.98 Add to cart
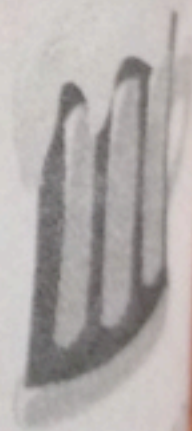
SAY HEY

Pastrami, bacon, swiss

$8.98 Add to cart

brew
JUDICAT

PRECISE
BREWING

EMPOWER
DRINKING

BE SKEPTICAL

BACKEND

- Python/Django

- South (migrations)

- tastypie (API)

- dse (bulk operations)

- networkx (graph analysis)

DATA

- PostgreSQL + Redis

- PostgreSQL

- Solr

FRONTEND

- Django for base template and complex HTML

- Require.js

- Backbone

  - backbone-relational

  - backbone-tastypie

- less

CONTINUOUS

Part I.   The Court

Rule 1.   Clerk

1. The Clerk receives documents for filing with the Court and has authority to reject any submitted filing that does not comply with these Rules.

Part VIII.   Disposition of Cases

Rule 41.   Opinions of the Court

Opinions of the Court will be released by the Clerk immediately upon their announcement from the bench, or as the Court otherwise directs.

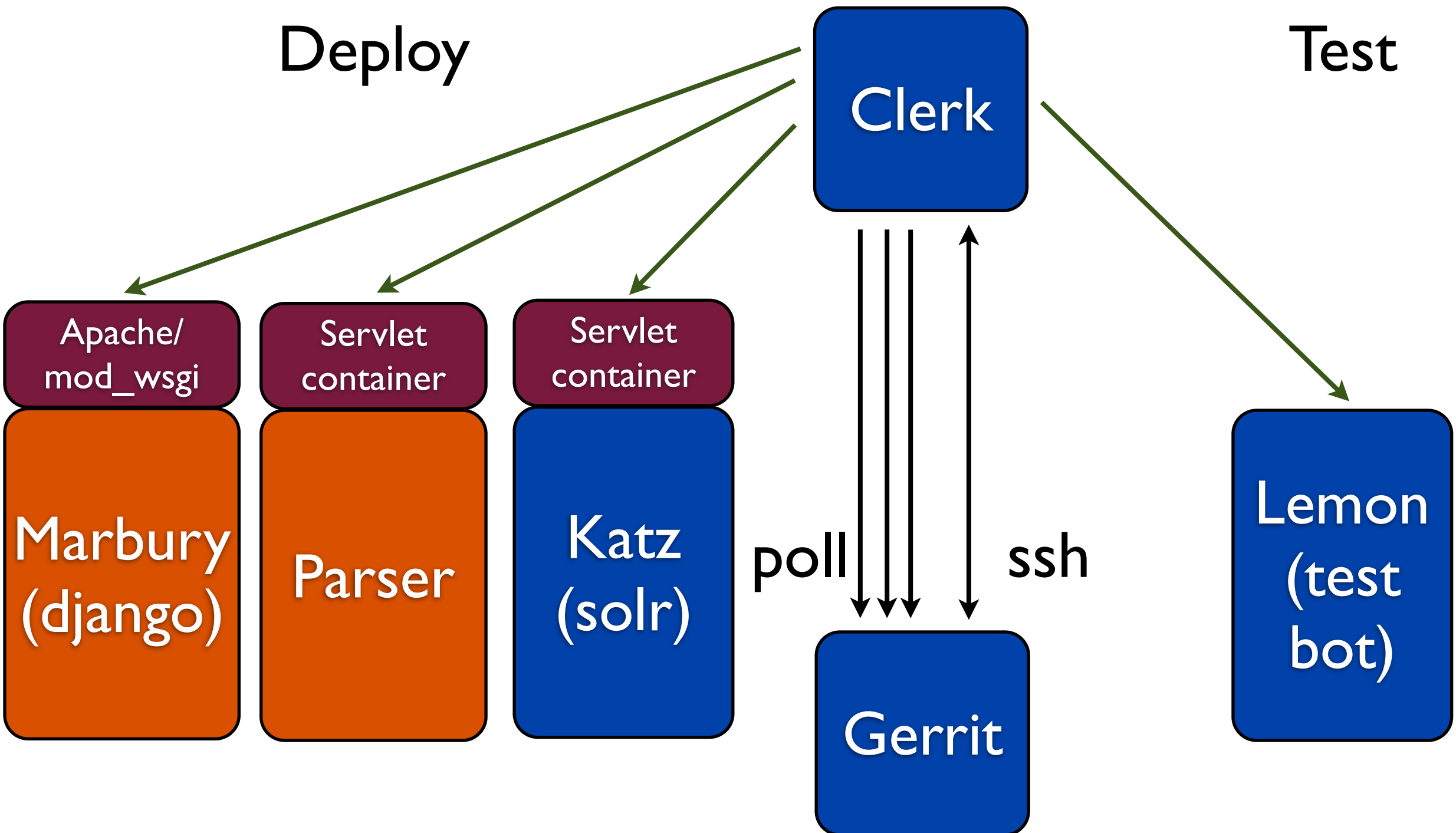|		
Author	patrick <patrick@judicata.com> Jan 28, 2013 4:40 PM	
Committer	patrick <patrick@judicata.com> Mar 6, 2013 12:57 AM	
Parent(s)	34727d472fb9d941ecdc8e09ead2a89245ae628f Fix bugs in Sentence Parsing	
Download	checkout	pull	cherry-pick	patch SSH	HTTP
	git fetch ssh://adam@codereview.judicata.com:29418/judicata refs/changes/67/67/7 && git checkout FETCH_HEAD 📋

Review	Abandon Change	Rebase Change	Diff All Side-by-Side	Diff All Unified

	File Path	Comments	Size	Diff		Reviewed
▶	Commit Message			Side-by-Side	Unified	
A	searchfe/al/marbury/scraping/__init__.py		0 lines	Side-by-Side	Unified	
A	searchfe/al/marbury/scraping/disposition.py		705 lines	Side-by-Side	Unified	
A	searchfe/bin/dispositions.py		35 lines	Side-by-Side	Unified	
			+740, -0			

Comments   Expand Recent | Expand All | Collapse All

Patrick Krecker Uploaded patch set 2.	Feb 15 2:07 PM
Patrick Krecker Patch Set 2: The performance is pretty bad. I will spend some soon making …	Feb 15 2:14 PM
Adam Hahn Patch Set 2: (13 inline comments)	Feb 18 3:03 PM
Itai Gurari Patch Set 2: (16 inline comments) As a meta-level comment, the variable …	Feb 19 12:16 PM
Patrick Krecker Uploaded patch set 3.	Feb 25 4:04 PM
Patrick Krecker Patch Set 2: (11 inline comments)	Feb 25 4:04 PM
Patrick Krecker Uploaded patch set 4.	Feb 25 4:09 PM
Itai Gurari Patch Set 2: (3 inline comments)	Feb 26 1:37 PM
Itai Gurari Patch Set 4: (26 inline comments)	Feb 26 4:19 PM
Itai Gurari Patch Set 4: (1 inline comment)	Feb 26 8:35 PM
Patrick Krecker Uploaded patch set 5.	Mar 4 12:50 AM
Patrick Krecker Patch Set 5: Anything not explicitly responded to I fixed in the code.	Mar 4 12:50 AM
Patrick Krecker Patch Set 4: (4 inline comments)	Mar 4 12:50 AM
The Clerk Patch Set 5: Verified This patchset pleases the Court.	Mar 4 12:51 AM
Patrick Krecker Uploaded patch set 6.	Mar 4 4:33 PM
The Clerk Patch Set 6: Verified This patchset pleases the Court.	Mar 4 4:33 PM
Itai Gurari Patch Set 4: (3 inline comments)	Mar 4 6:54 PM
Itai Gurari Patch Set 6: (1 inline comment)	Mar 4 6:54 PM
Patrick Krecker Uploaded patch set 7.	1:03 AM
The Clerk	1:04 AM

Patch Set 7: Verified

This patchset pleases the Court.

CONTINUOUS

Deploy

Test

Clerk

Apache/
mod_wsgi

Servlet
container

Servlet
container

Marbury
(django)

Parser

Katz
(solr)

poll   ssh

Gerrit

Lemon
(test
bot)

DATASET

- 15,000 recent California cases

  - Criminal and civil

- Parsed, with references reconciled

DATASET

```xml
▼<case>
  <name>Catlin v. Superior Court, S167148, 51 Cal.4th 300</name>
  <datefiled>2011-01-27</datefiled>
  <court>/us/ca/sct</court>
  ▼<opinions>
    ▼<opinion>
      ▼<section>
        ▼<paragraph>
          <sentence>OPINION</sentence>
        </paragraph>
        ▼<paragraph>
          ▼<sentence>
            <judge>KENNARD</judge>
            , Acting C. J.—
          </sentence>
        </paragraph>
        ▼<paragraph>
          ▼<sentence>
            After petitioner Steven David Catlin was sentenced to death, the Legislature enacted Penal
            Code section 1054.9.
          </sentence>
          ▼<sentence>
            That statute permits a defendant who has been sentenced either to death or to life
            imprisonment without parole to obtain discovery of "materials . . . to which the . . .
            defendant would have been entitled at time of trial" (§ 1054.9, subd. (b)) if the defendant
            shows that good faith efforts to obtain such materials from trial counsel were unsuccessful.
          </sentence>
          ▼<sentence>
            Four and one-half years after the law's passage, petitioner sought discovery under its
            provisions.
          </sentence>
```

catlinvthesuperiorcourtofkerncountys16714851cal4th300.xml

DATASET

```xml
▼<paragraph>
  ▼<sentence>
     The Court of Appeal, after briefing and oral argument, again denied the mandate petition,
     this time in a written opinion.
   </sentence>
  ▼<sentence>
     The two-justice majority relied on a footnote in our decision in
    ▼<reference href="inresteele200432cal4th682,695-69610calrptr3d536,85p3d444steele">
       In re Steele (2004) 32 Cal.4th 682 [10 Cal.Rptr.3d 536, 85 P.3d 444] (Steele)
     </reference>
     , which stated that an inmate who seeks postconviction discovery under section 1054.9 must
     do so within a "reasonable time."
   </sentence>
  ▼<sentence>
     (
     <reference href="inresteele200432cal4th682,695-69610calrptr3d536,85p3d444steele">Steele,
     supra, at pp. 692-693, fn. 2</reference>
     .)
   </sentence>
  ▼<sentence>
     The Court of Appeal majority agreed with the Attorney General that the footnote's language
     supported the trial court's denial of the discovery motion for being untimely.
   </sentence>
  ▼<sentence>
     The dissenting justice viewed the
     <reference href="inresteele200432cal4th682,695-
     69610calrptr3d536,85p3d444steele">Steele</reference>
     footnote as ambiguous, and pointed out that section 1054.9 lacked any timeliness
     requirement.
   </sentence>
  ▼<sentence>
     Petitioner sought review in this court, and we granted review to clarify the matter.
   </sentence>
</paragraph>
```

catlinvthesuperiorcourtofkerncountys16714851cal4th300.xml

DATASET

- Interesting n-grams?

- Citation graph

  - Visualizations

  - What's cited most? Why?

  - What can you tell about cases you don't have?

- Judicial bias?

DISSENTING OPINION

EMBRACING DIFFERENCES

BREADTH &
DEPTH

SUMMARY

- Don't be afraid to be different

- Approach frameworks and tools skeptically

- The best code is less code

RESOURCES

- Law

  - A Jailhouse Lawyer's Manual

  - The Oyez Project

- Engineering

  - instagram-engineering.tumblr.com

  - thebuild.com

JUDICATA

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