

# **SEAL SOFTWARE**

Intelligent Contract Analytics across  
Languages and Domains

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# Overview

- Who are we
- What we do - 2 Use Cases
- How we do it
- Enhance core functionality
- Open problems
- Questions

# Who we are

- Founded in 2010
- R&D in Gothenburg, Sweden
- Headquarters in San Francisco
- Offices in London, München, New York
- > 100 employees
- Product: Contract Discovery and Analytics
- <http://www.seal-software.com>

# What we do

- **Where are my contracts and what's in them?**
- Automate contract review process
- Adaptable to regulatory changes
- Customizable
- Actionable information
- Scalable
- Data is presented in an integrated and flexible visualization tools
- Flexible platform that evolves as the customers' needs and regulations change
- Across multiple industries – Healthcare, Financial Services, Legal Services, High Tech...
- Across multiple language

# Use case

## The problem:

- A large healthcare provider in the USA aims to have a multi-billion dollar acquisition
- The company they want to acquire has over 1 million contracts
- During Integration of the 2 companies:
  - Novate
  - Identify risky provisions
    - Change of control
    - Assignment
    - Limitation of liabilities
    - Etc
- Go through a vendor consolidation exercise to achieve over \$1 billion dollars in savings

## The solution:

- Use Seal to discovery all of the contracts of the newly acquired company
- Use the out of the box extractions and Policy creation to extract all of the risky provisions
  - Prioritize the contracts with risky provisions for renegotiation or potential termination
  - See if any of the strategic contracts automatically terminated due to change of control
  - See which contracts have the right to assign, no right to assign or conditional assignment
- Use Seal to recognize overlap in vendors and where one vendor has given better position

# Use case

## **The problem**

- One of the world's largest cell phone provider's leases the land under each of its cell towers
- At any given time, the provider maintains 10s-100s of thousands of active leases
- Managing these is a detail oriented and time consuming activity (agreements vary significantly from each other)
- Unmanaged agreements = commercial and legal risks (lease term, renewal, indemnity and termination)

## **The solution**

- Seal can discover the lease agreements across the various repositories
- Seal pulls many key lease provisions right out of the box
- Seal analytics to find additional provisions, unique to the customer and their needs
- Contracts in a single place (for future reference)

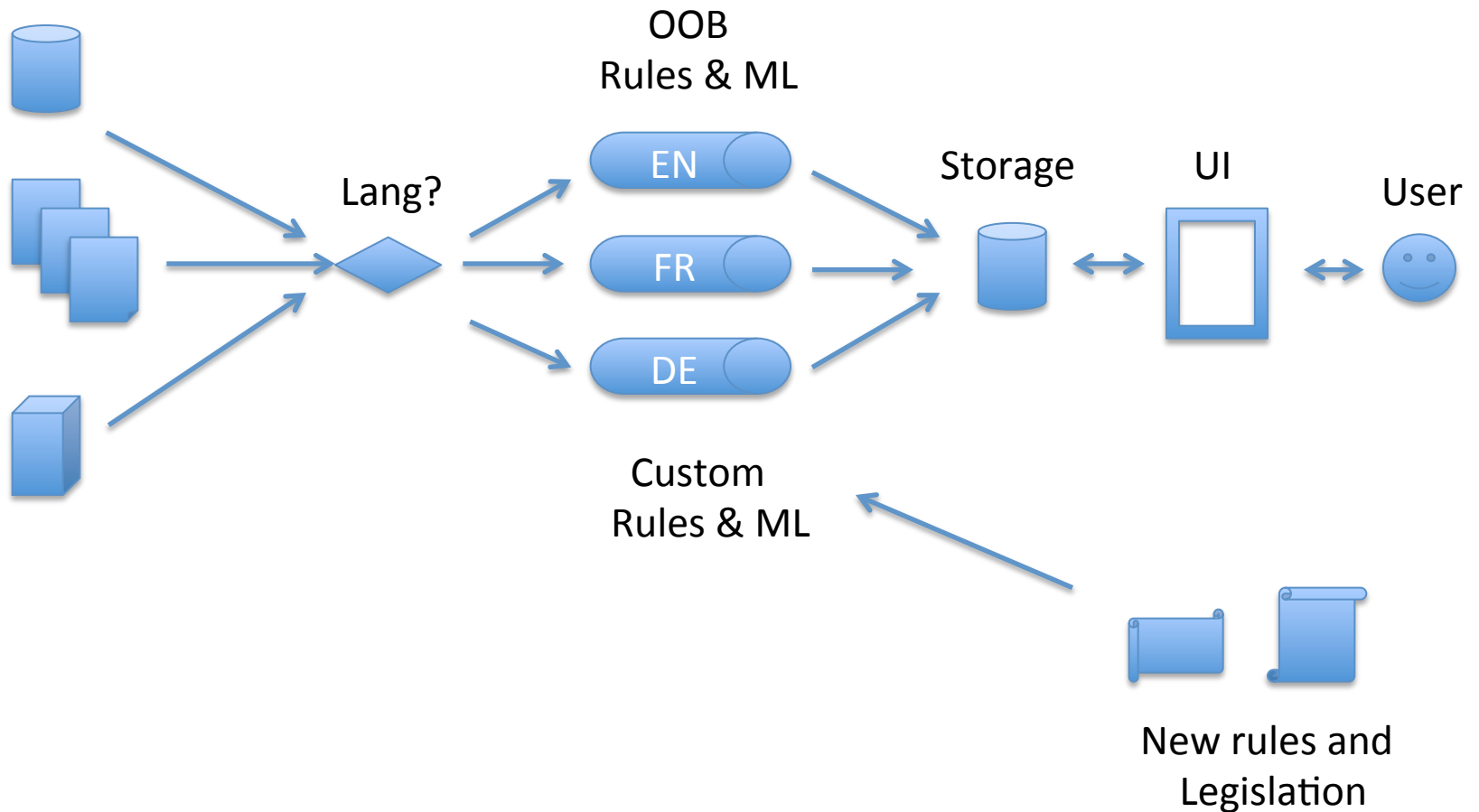
## **The result**

- Analysis of over 600,000 lease related agreements in approximately 3 months
- Identify agreements that required further attention
- Cost savings

# Contracts – some nitty-gritty details

- They come in all shapes and forms (pdf, word, text, scanned, hand-written, on pen-drives, in emails, etc.)
- They come in written in a single language or a in mixture of languages
- They come as single document or many documents in one, or just parts of a document
- Structure and formatting is lost (scans and images)
- Tons of OCR noise introduced
- Extremely varied length and size
- Extremely varied context
- Language obfuscation

# How we do it







Search




791 contracts in  
Review



1052 contracts  
Processed



0 contracts  
Expires this month

 Search contracts

Search within All words.

Filters

Assigned To

None

Priority Level

Level

Processed Within

Any time

Contract Status

Exclude locked  Near duplicates  Uploaded by me

Filter By Category

- ContractType
- ExclusiveJurisdiction
- FileType
- GoverningLaw
- Jurisdiction
- Language
- LinkedContractType
- M&A
  - AntiBribery (42)
  - ArbitrationBinding (136)
  - ArbitrationPlace (112)
  - ArbitrationRules (100)
  - AutoRenewal (126)
  - ChangeOfControl (275)
  - ConditionalNonSolicitation (31)
  - Deed (15)
  - DutyToReturn (238)
  - EC (188)

🔍 "Intellectual property"

+ ▾ ✕

ContractingPar... ▾ Google ✕

Jurisdiction ▾ new york ✕

TerminationDate ▾ 2017-01-31 ✕

Match  All  Any of given search conditions.

Search within  words.

# Enhanced Core Functionality

- Custom-specific policies
- Custom-specific rules
- User-Driven Machine Learning (UDML)

# Custom Specific Policy

- 1 example (sentence or paragraph) is enough
- Rely on LSI
- Discover all similar clauses throughout the pool of contracts
- Enabled in the system and available to users
- **Non-Compete:** *“In consideration of the benefits provided for in this Agreement...give advice or consultation to any Competitive Business.”*

# UDML

Models *Note! Model training and deployment*

Residuals	New								
RightsToAssign	New								
RightToAssign	New								
ROFR	New				0	0	Train	Deploy	Undeploy
sfdc_org	New				0	0	Train	Deploy	Undeploy
Termination	New				0	0	Train	Deploy	Undeploy
TerminationBreach	New				0	0	Train	Deploy	Undeploy
TerminationImmediate	New				0	0	Train	Deploy	Undeploy
TerminationInsolvency	New				0	0	Train	Deploy	Undeploy
TerminationNotice	New				0	0	Train	Deploy	Undeploy
TermOfContract	New				0	0	Train	Deploy	Undeploy

**Create new model**

Model name

Cancel Create

# UDML

environment + x
ffc5c45dad523d901ff255618fb253700cc5559b.json  Ready for training >

Match All Any of given search conditions.

All contracts v

Extractions v
🔗

the shareholders, and the Company's board of Directors (and any committees thereof) since the time of incorporation of the Company. At the Closing, the minute books of the Company and each of its Subsidiaries will be in the possession of the Company. 3.22 Environmental; Health and Safety. The Company and its Subsidiaries are not in violation of any applicable statute, law, or regulation relating to the environment or occupational health and safety, and no material expenditures are or will be required in order to comply with any such statute, law, or regulation. 42 3.23 Brokers' and Finders' Fees; Third Party Expenses. Except as set forth in Section 3.23 of the Disclosure Schedule, the Company has not incurred, nor will incur, directly or indirectly, any liability for brokerage or finders' fees or agents' commissions, fees related to investment banking or similar advisory services or any similar charges in connection with the Agreement or any transaction contemplated hereby. 3.24

Imported_Assignable	New			2071	1647	Train	Deploy <span style="font-size: 0.8em;">i</span>	Undeploy <span style="font-size: 0.8em;">i</span>	
Imported_AutoRenewal	New			1403	1165	Train	Deploy <span style="font-size: 0.8em;">i</span>	Undeploy <span style="font-size: 0.8em;">i</span>	
Imported_ChangeOfControl	New			1078	813	Train	Deploy <span style="font-size: 0.8em;">i</span>	Undeploy <span style="font-size: 0.8em;">i</span>	
Imported_ContractingParties	New			15482	2497	Train	Deploy <span style="font-size: 0.8em;">i</span>	Undeploy <span style="font-size: 0.8em;">i</span>	

# New Domains and Languages

- Seal provides the necessary tools
- M&A may results in addition of contracts from new domains and/or languages
- Custom policies and UDML enhance OOB core analyzers (to cover new domains, types, regulations and languages)
- Requirements – language specific component (Sentences and Tokens) and domain expert



# Domain experts

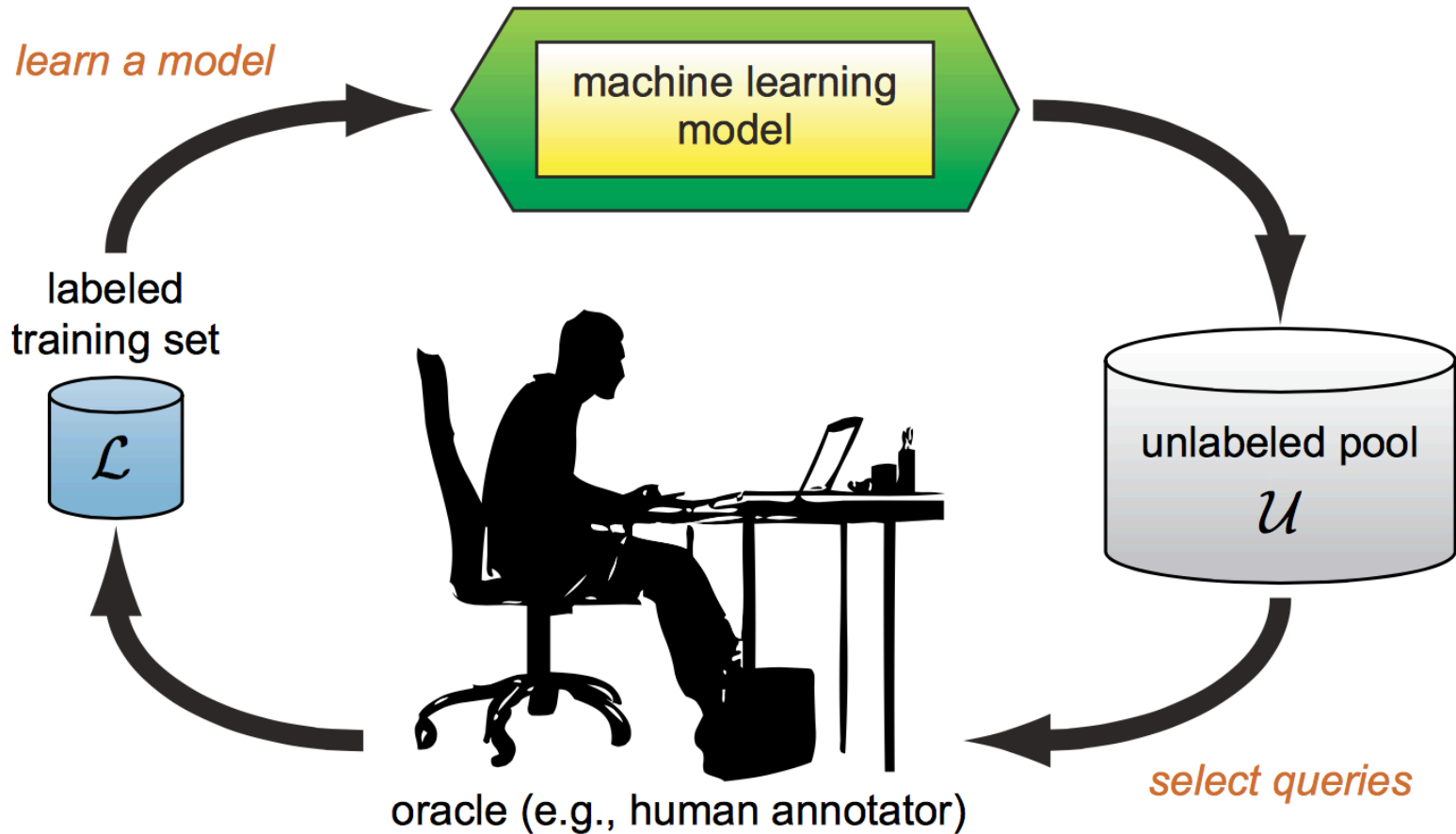


David Lee Windecher

Domain knowledge  
Where data is  
How it should be analyzed  
One lever – annotate data

“I’m not married to the  
annotations I make ...”

# Enhancing the system - AL



# Open Problems

- Relations (long-distance, across contracts)
- Learning from low amounts of data
- Learning from highly imbalanced data
- How can we reduce noise in training data?
- What is the best evaluation metric for non-data-scientists?

# Questions

Thank you!