



Yi Wang



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About Unum

Unum is a leading provider of workplace benefits and financial protection solutions



- Disability Insurance
- Life Insurance
- Supplemental Benefits

DIAA Team: develops data and AI solutions to improve business processes

Project Overview



Problems: Leave specialists must compare complex federal and state rules back and forth, making eligibility review time-consuming.



Goal: Transform regulatory text into structured conditions that support consistent eligibility decisions.



Complex Regulations



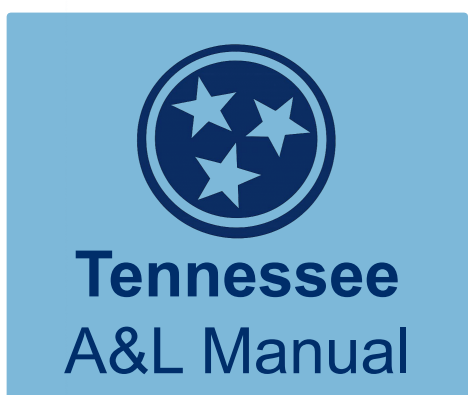
Structured Rules



Eligibility Decision

Regulatory Data Pipeline

Data Sources at a Glance



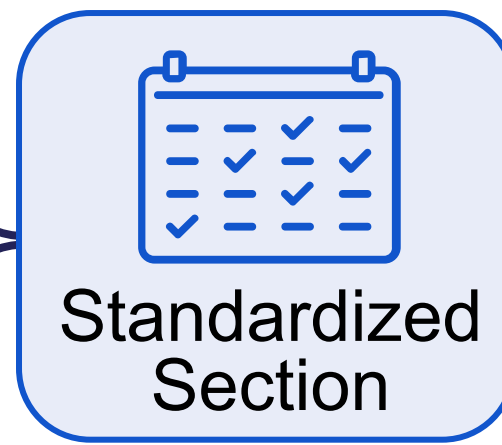
Generalized Ingestion Pipeline



1



2



3



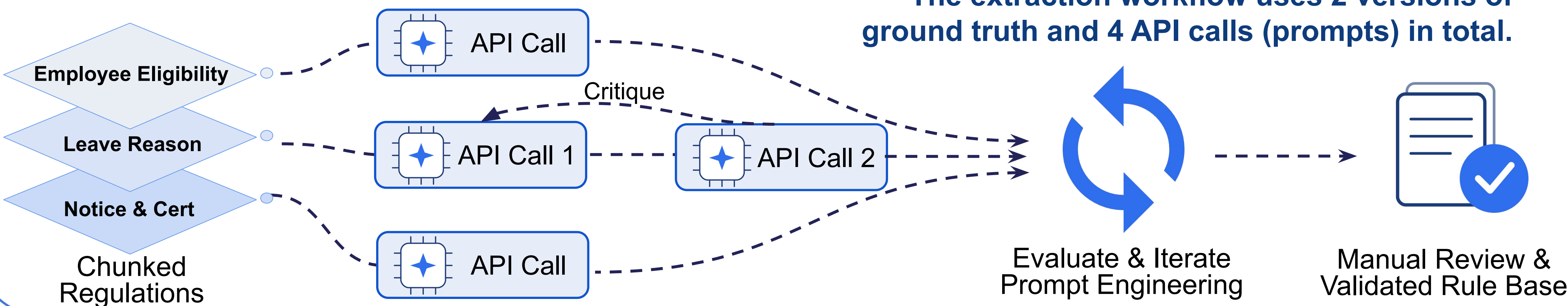
4

Chunk Schema

- **Employee Context**
air crew, service
- **Claim Description**
reason, relationship
- **Retrieval Metadata**
function, citation
- **Content**
raw text

Methodology

Framework: How we Extracted the Structured Rules



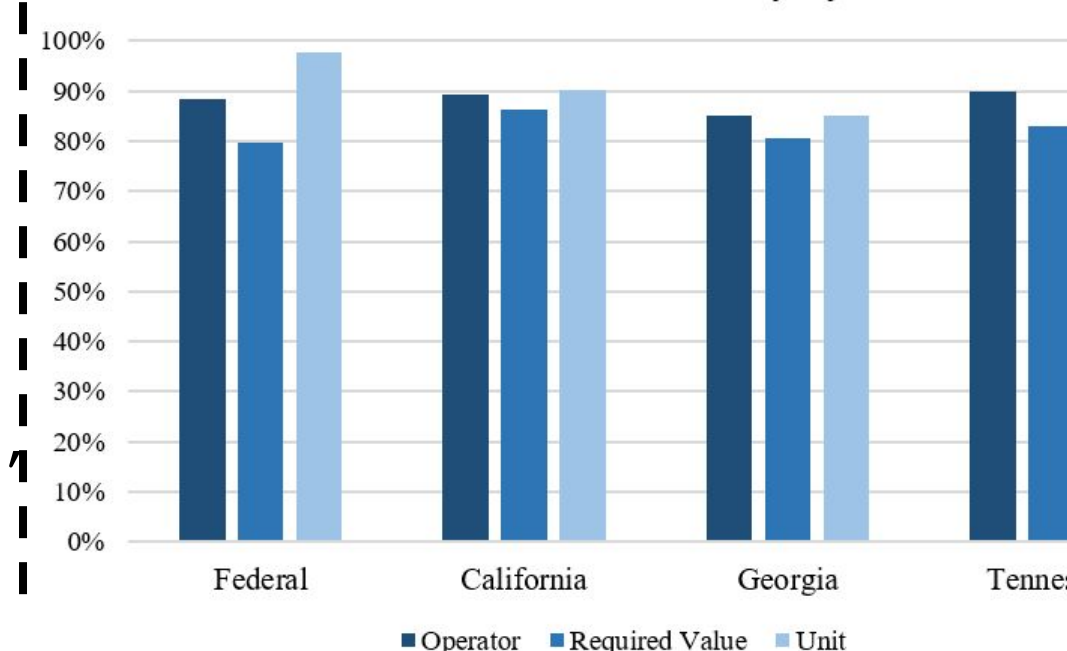
Evaluation for Extraction Performance

We transformed free-text regulatory extraction into deterministic rules and developed the ground truth and evaluation framework.

"pass_condition": "The health condition must involve a period of incapacity of more than three consecutive, full calendar days and treatment by a health care provider."

```
{
  "field": "period of incapacity",
  "operator": ">",
  "required_value": 3,
  "unit": "calendar days"
}
```

Leave-Reason Extraction Accuracy by Jurisdiction

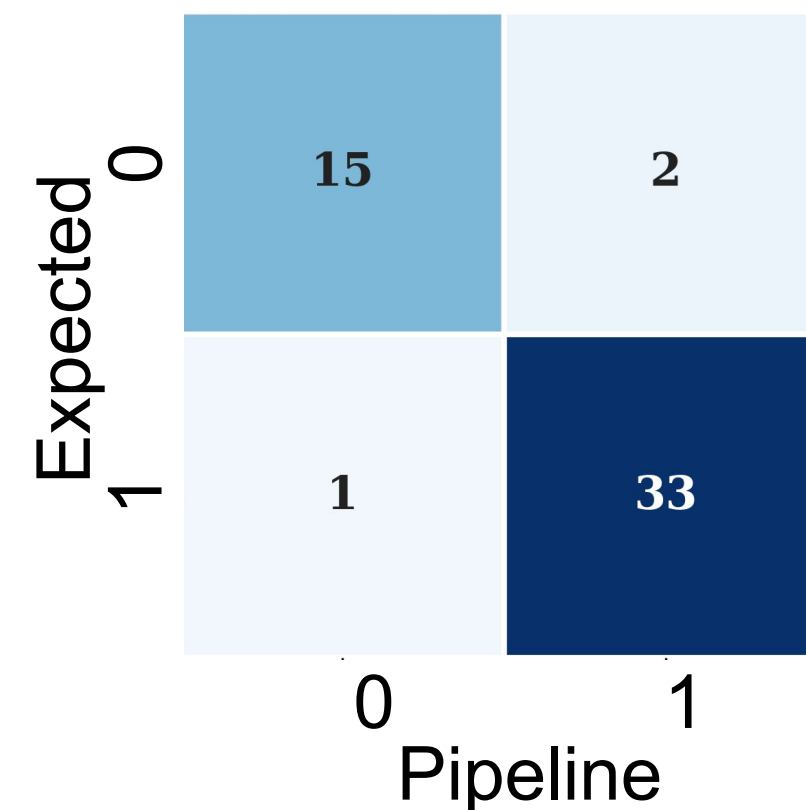


~100%
Recall for employee eligibility, notice & cert chunks

> 80%
Accuracy for leave reason chunks across all jurisdictions

Decision Results

> 94% Accuracy



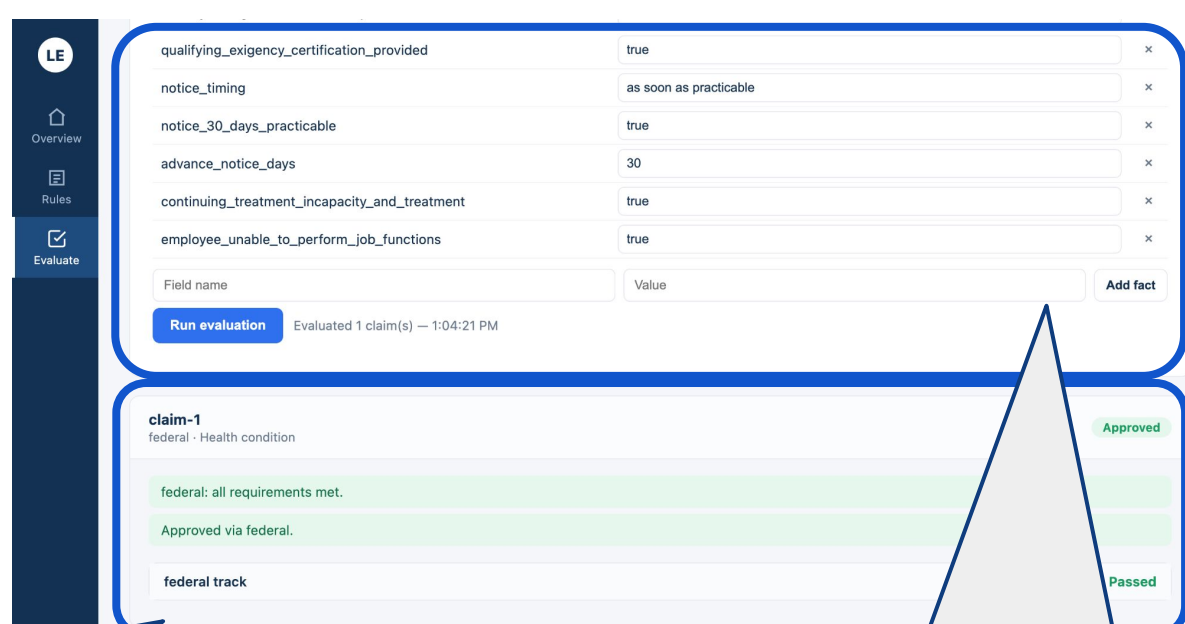
1 - Needs Human Review
0 - Approved

Deliverables and Impacts

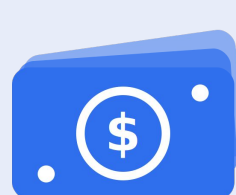
"Very intuitive and saved so much time dealing with more complex cases when we are on the current system!"

- Brittany, Leave & Claims

Get an instant decision with plain-language reasoning



Enter claim facts as simple field-value pairs or upload Excel files directly



\$620K - \$1M

Potential Annual Capacity Value



575
Potential Users



27K+
Hours Saved Annually



~25%
More Claims Processed Automatically



Shorter process time
Higher client satisfaction