

## TeraCrunch Platform

### TEXT ANALYTICS ENGINE

Transform data into meaningfully defined topics and associations: events, numbers, things, people, places and the patterns & correlations between them

### INSIGHT2™ MODULE

Pre-built algorithmic models designed to pinpoint associations and propensities in the data, predict change over time, identify instabilities, variation ranges and anomalies

### DATA EXTRACTION

Enables comprehensive and rapid collection of data from Customer Data Sources, Internet, Social-Media and other sources and prepare the data for further synthesis

### TECHNOLOGY

Machine Learning Algorithms, Natural Language Processing, Knowledge Engineering, Statistical & Computational Models, R, WEKA, MongoDB

For more information contact [services@teracrunch.com](mailto:services@teracrunch.com)

## Case Study

Billing fraud and revenue optimization using TeraFraud™ Solution

### About The Client

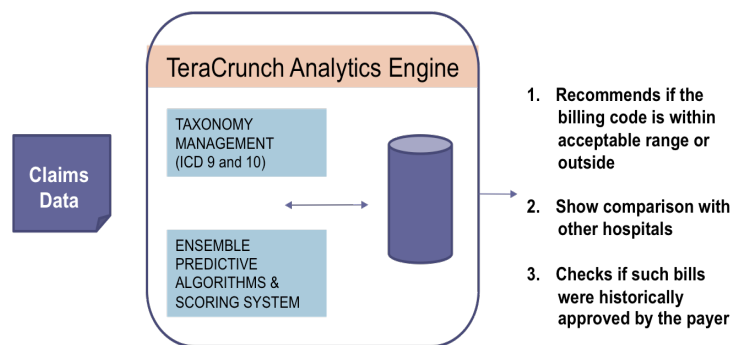
Large healthcare insurance provider

### Problem Overview

Since many diseases can be alternatively classified under more than one ICD-9 or ICD-10 code, and since the migration to ICD-10 has opened new possibilities to establish billing standards, there is a need to mitigate operational and financial risks and reduce fraud

### TeraCrunch Solution

- True “big data” solution built on data received from the largest Payer that insurers ~50% of the country. This large data set makes our solution robust & highly accurate. We also have data from “all” hospitals of Kansas City area and 47 hospitals across the country
- The solution performs statistical analysis to identify under-coded and/or over-coded claims. It also compares similar claims from other hospitals
- We thoroughly evaluated the data, traced its sources of variation and identified the best variables (and their associated constructs) to capture and model provider medical behavioral choice
- We devised a multidimensional behavioral profiling system that will allow us to closely monitor coding behaviors at both the individual provider and practice or systemic level
- Integrates best in class statistical, machine learning, and medical & behavioral knowledge engineering components
- We incorporated both medical and behavioral data science expertise to build most reliable judgments and alerts in our solution
- Built in ICD-9 to ICD-10 transitional trajectory that baselines practitioner behavioral choices and detects ICD-10 tendencies



### Impact on the business

We found ~5-8% were over and ~5-8% were under coded. However this number would vary from one hospital to another. We also provided an Interactive dashboard giving clients the ability to compare different hospitals and physician's coding habits