



## Data Science and Analytics Capability

Our data scientists and related experts enable forward-looking, data-driven, real-time decision making for our clients. These elite teams, comprised of computer scientists, data scientists, business strategists, and business process architects, has delivered successful projects to global leaders in a range of industries. In partnership with Gravity Labs, our R&D arm, we produce winning analytic models for clients worldwide.

### We help clients scale applied analytics by delivering:

- » Tailored proofs-of-concept
- » World-class machine learning expertise
- » Deep B2B and B2C industry experience
- » Cloud and client-side analytics systems
- » Accurate, cutting-edge predictive models
- » Partnerships with leading tech vendors

### Our analytic offerings include:

- » Intelligent Automation for Manufacturing
- » Emergency Service Provider Dashboards
- » Healthcare Analytics
- » Pricing Optimization

### Our solutions cover the full “maturity model” of scalable analytics:

1. Monitoring operations
2. Reporting outcomes
3. Diagnosing cause and effect
4. Predicting future outcomes
5. Prescribing data-driven actions
6. Automating decisions with cognitive models

### Our solutions are built using the leading analytic tools and data providers:



Our solutions have been successful across a range of industries and use cases:



### Advanced Analytics

- » **Fundamental Data Preparation and Wrangling:** E.g., extraction, cleansing, scaling, normalizing, mathematical feature transformation
- » **Exploratory Analytics:** E.g., factor analysis, principal component analysis
- » **Machine Learning Algorithms for Supervised Learning:** E.g., random forests, gradient boosting machines, regularized regression models like lasso & ridge
- » **Unsupervised Learning:** E.g., k-means and neural clustering, anomaly detection
- » **Network Models and Graph Theory:** E.g., social network analysis, graph traversal
- » **Sequential, State Transition, and Event Modeling:** E.g., time series models including ARIMA, state transitions



### Business Solutions

- » Predictive Maintenance
- » Intelligent Manufacturing
- » Channel Strategy
- » Sales Operations
- » Precision Healthcare
- » Marketing Campaign Uplift
- » Business Process Optimization & Automation



### Key Industries

- » Manufacturing
- » Life Sciences & Pharma
- » Logistics

## Example Rule

### Example use case: Robotic Process Automation for Hazardous Materials Shipping

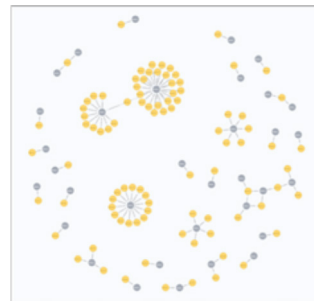
Fresh Gravity's work helping a major biorepository optimize its packing and shipping functions shows how true Enterprise AI often relies on intelligent systems of multiple interdisciplinary models working together. To learn the complex rules and regulations for packing and shipping these organisms, our data scientists used past shipping data to build graph databases in neo4j, then applied a series of machine learning algorithms. These models then fed into a "greedy" box-packing algorithm to minimize shipping and handling costs.

### Decision Trees



### Network Models

Container XD x Product ID



Container Type x Product



- » **Box Type: 3230**
- » **Rule #3230-1**
- » **Rule Logic**
  - Bio Safety Level = 2
  - Container is NOT frozen
  - Buyer is NOT ID:32402
  - Destination is International

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### Other Offices



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