WOLFRAM CONSULTING

We deliver solutions for the AI era—combining symbolic computation, data-driven insights and deep technical expertise

From the creators of Mathematica and Wolfram|Alpha

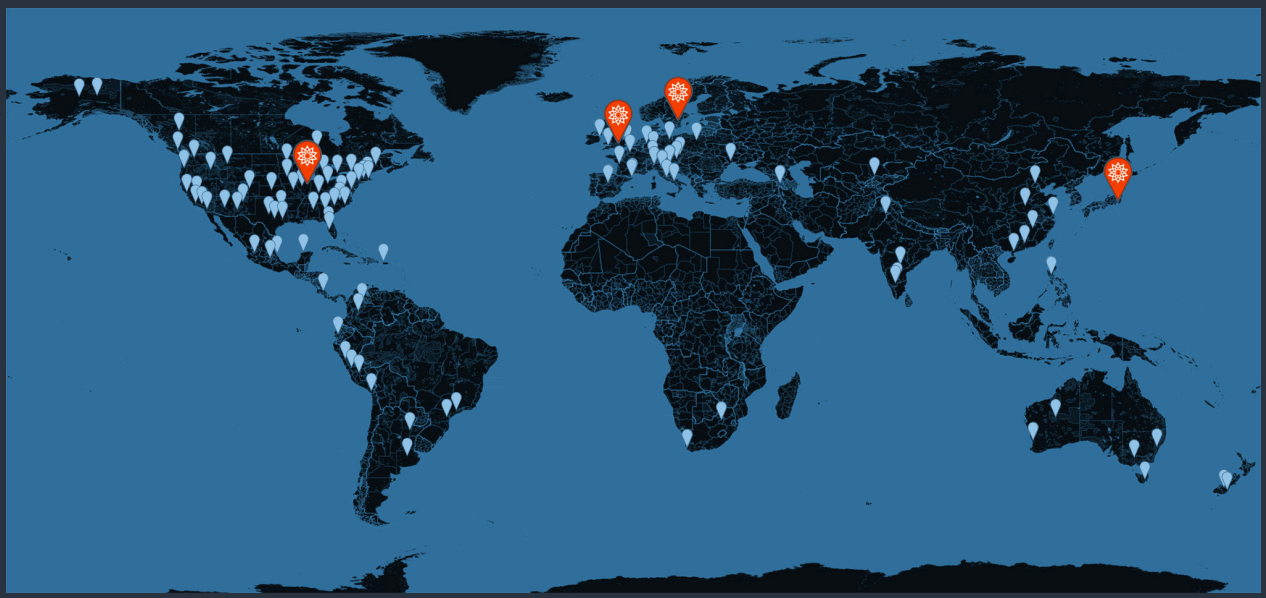
Wolfram Has Computational Intelligence in Its DNA

At Wolfram Consulting Group, we know what's possible with computational technology because we are global leaders in creating it. That gives us a unique depth of expertise in applying it to consulting work across all industries.

Whether you are starting a new project or need help with something in progress—any size or scope—you'll get unparalleled innovation and high-fidelity results with Wolfram Consulting.

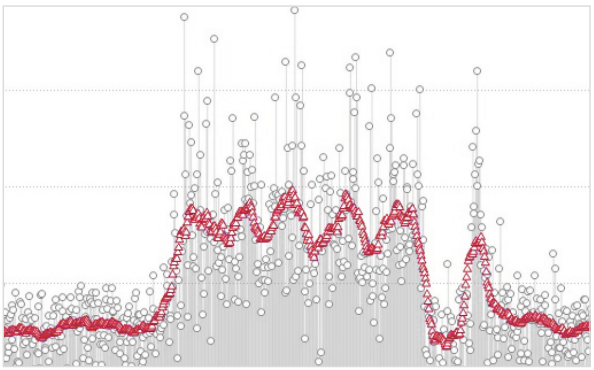
As the creator of Mathematica, Wolfram|Alpha and Wolfram Language, Wolfram has been pioneering computational intelligence and scientific innovation for over three decades. In addition to providing software for more than a generation of scientists and students, Wolfram technology has long been a component of intelligent assistants and other AI systems, delivering tools and solutions for R&D, education, enterprise and consumer applications.

Privately owned, Wolfram Research was founded in 1987 by Stephen Wolfram and has more than eight hundred employees and consultants worldwide.



Recent Projects from Our Team

Computational intelligence in action



Improving Management Processes

We developed an interactive office management interface that accepts natural language queries using high-powered data processing and storage to assess key factors for improving operational effectiveness.

Technology Used

Interface Construction | Structured Datasets | Time Series | Data Visualization | Programmable Linguistic Interface | Cloud Deployment

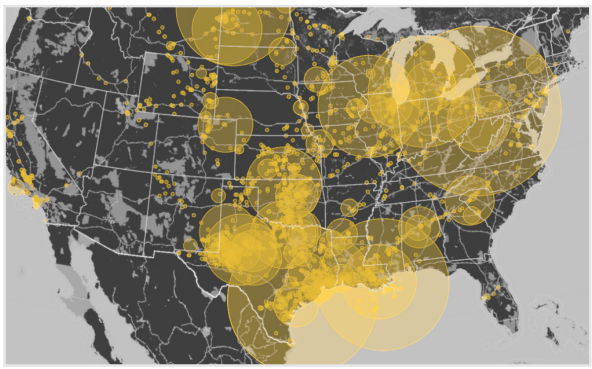
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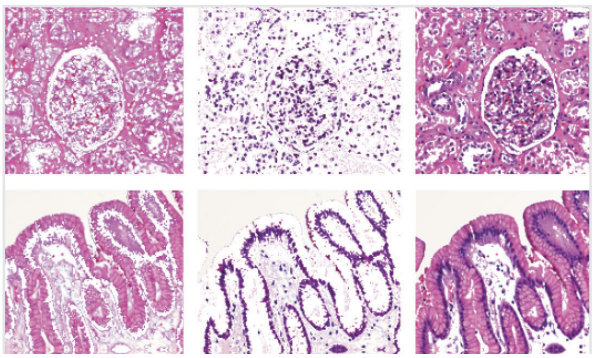
Reducing Hazardous Accidents

We deployed an interactive technical report of hazardous pipeline accidents over time, using advanced methods to categorize high-risk areas toward the development of better accident prevention policies.

Technology Used

Data Import | Machine Learning | Geographic Computation | Time Series | Data Visualization





Segmenting Microscopic Images

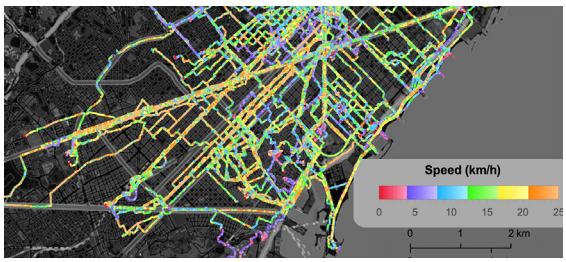
We developed a simple application for detecting differently colored components in microscopic images, allowing faster identification of different cellular structures in the lab.

Technology Used

Image Processing | Segmentation Analysis | Color Processing | Data Transforms

Consulting Services

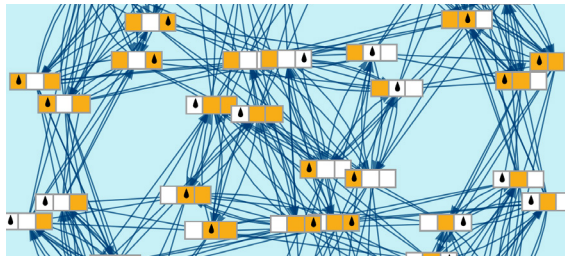
How we help organizations large and small



Data and Computational Intelligence

As thought leaders in computation and its applications in business and engineering, we can help you capture and multiply the value of your data to transform your company.

Exploratory data analysis ▪ *Descriptive, predictive & prescriptive analytics* ▪ *Real-time data preparation* ▪ *Dynamic data visualization* ▪ *Bespoke machine learning models* ▪ *Dashboards & interactive reports* ▪ *Custom natural language interfaces* ▪ *Modeling of complex ecosystems*



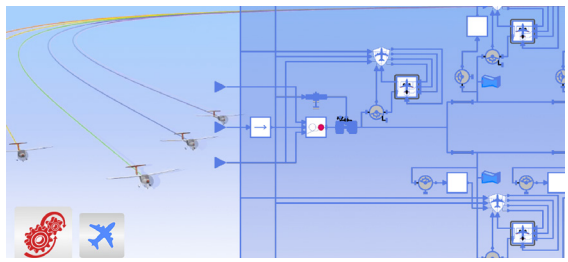
Algorithm Development

Across all sectors, Wolfram Consulting Group experts help you innovate with advanced software algorithms where no standard applications exist. Building on the broad foundation of Wolfram Language, with its more than 10,000 industrial-strength computational tools, we can deliver quick prototypes as well as production software supporting your product and systems development, or powering your business or technical operations.



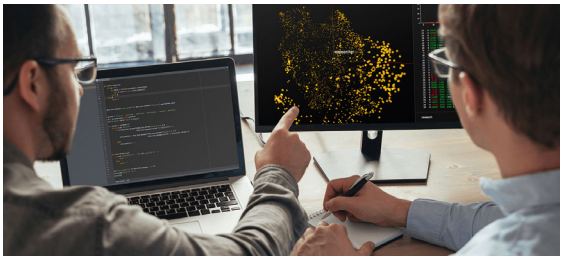
LLM Strategy and Prototyping

We have developed a comprehensive set of AI tools for the rapid development of LLM-based services, seamlessly integrating the computational power of Wolfram technologies, foundational and specialized language models from all major providers and your organization's unique data assets. Our consulting teams help you select the right LLM provider, work with your domain experts to create quick proof-of-concept applications and deliver production-grade LLM solutions deployed on premises or in the cloud.



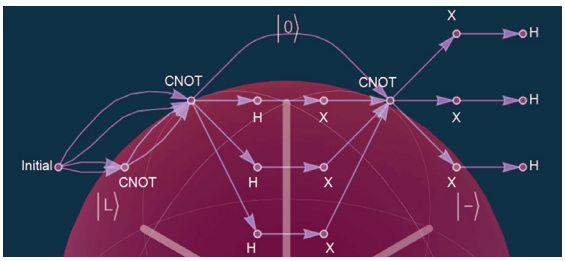
Model-Based Design

Working side by side with our experts, you can rapidly evaluate and test new ideas with multidomain models and high-fidelity virtual prototypes while optimizing manual design workflows through automation. Realizing the potential of model-based design at full scale, you can rely on our teams to create a digital twin of your ecosystem for simulation, integration, testing, monitoring and maintenance.



Wolfram|Alpha for Business

Our consultants have delivered a multitude of enterprise solutions based on Wolfram|Alpha technology, curating corporate data and making it computable alongside the extensive knowledge domains already built into Wolfram|Alpha.



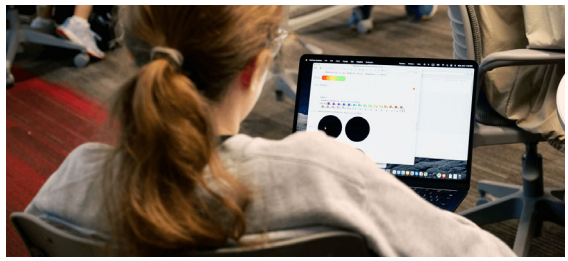
Quantum Computation

Whether you work in finance, cybersecurity, energy, pharmaceuticals or materials, Wolfram Consulting can help you get ahead in the journey toward commercially viable applications of quantum computing, taking advantage of our in-house developed Wolfram Quantum Framework. The developers of this original tool suite work with your domain experts to model, visualize and simulate complex quantum circuits to explore real-world applications of quantum algorithms, connecting directly to available quantum platforms for experimental validation.



Blockchain and Distributed Ledger Technology

Across sectors, Wolfram Consulting helps integrate your application with distributed ledger technology providers to enable consistent access to public or private blockchains. We can deliver tried-and-true tools and methods for modeling and testing crypto asset trading strategies and help you power smart contracts and Oracle services with computational knowledge at industrial scale.



Education Technology

Supporting more than 30,000 educational institutions worldwide, Wolfram has been delivering education technology for more than three decades. Our EdTech practice develops custom curricula, electronic publishing solutions, courseware, applications for learning engineering and automated AI-based tutoring systems using language model technologies.

SPECIAL FOCUS

Multiparadigm Approach to Data Science

While most organizations are only scratching the surface of what's possible, our multiparadigm approach to data analytics and problem solving incorporates a wide range of cutting-edge algorithms and interdisciplinary methods to extract insights, meaning and decisions from data—dramatically extending the scope of problems computation can solve.

KNOW YOUR DATA SCIENCE AREAS:



Machine Learning

Generate adaptive models directly from complex datasets for object classification and predictive analytics, such as identifying which new advertising markets to enter.



Graph/Network Analysis

Explore and visualize systems of discrete relationships to analyze correlations and patterns, such as modeling demographics in a social network.



Report Generation

Display conclusions and insights in a styled, formatted document for meetings, ongoing projects or public information, like a quarterly earnings report.



Dynamic Visualization

Display data in custom styled plots, charts and infographics, making it human-readable and interactive for quick analysis and decision making.



Time Series

Model, simulate and forecast sequences of events over time to track long-term trends and make predictions, such as expected sales for the next holiday season.



Survival Analysis

Compute survival functions and lifetime distributions to analyze time-to-event data, such as the expected lifetime of a piece of industrial equipment.



Neural Networks

Create and train layered processing networks for deep analysis and processing tasks, such as recognizing defective items coming off a production line.



Semantic Text Analysis

Analyze underlying structures in linguistic data to clean up data and extract meaning, such as determining sentiment in customer comments.



Cluster Analysis

Group and analyze data based on similarity measures to extract underlying patterns and relationships, such as which customers are most similar to your top 100.



Data Semantics

Standardize various incoming datasets into a unified framework for easier analysis, such as consolidating data with different unit systems.



Queueing Theory

Model and simulate systems of queues to analyze waiting times and resource allocation, such as the optimal number of tellers at a bank branch.



Wavelets

Deconstruct data signals into constituent parts for advanced manipulation and filtering of specific features, such as eliminating background noise from sensor data.



Systems Modeling

Model physical, electrical and other systems to inform design decisions, like the most effective heating installation for a building.



Statistical Distributions

Fit historic data to parametric distributions to make inferences about the underlying events, such as the likelihood of a customer clicking through an ad.



Random Processes

Model the progression of a system over time to make observations and predictions about its behavior, such as analyzing peak hours at a particular store location.



Optimization

Use high-level mathematics to discover the “best values” for your data in relation to key criteria, such as the ideal allocation of portfolio assets.



Morphological Analysis

Use geometric transformations on images and higher-dimensional data to analyze spatial properties, such as counting particles in a microscopic image.



Computer Vision

Process visual data with machine learning and other sophisticated algorithms for analysis of features and patterns, such as identifying road hazards from a video feed.



Signal Processing

Process and filter images, audio and other collected data to analyze underlying patterns, such as detecting an irregular heartbeat from an ECG.



Custom Interface Construction

Make interactive onscreen controls for real-time adjustment of parameters in analyses and visualizations, allowing deeper exploration of data.



Parallel Computing

Distribute parallel tasks to available computation units for large-scale scientific computing and other high-performance applications.



Geocomputation

Use precise geolocation data and powerful geodetic computations to accurately examine real-world situations, such as visualizing optimal routes for a bus service.



$$\sum_{k=0}^{\infty} \frac{(a_1)_k}{(b_1)_k}$$

Mathematical Modeling

Drive systems of differential equations, recurrence relations and symbolic formulas with your data to test and refine models, such as computing the recovery rate of an epidemic.

Unique to Wolfram

World-class experts innovating with true computational intelligence

Multidisciplinary, Multiparadigm Approach

Utilizing a broad range of modern analytical techniques and interfaces, we consistently deliver real, quantifiable answers to problems too complex for traditional methods.

Communication with Computational Notebooks

Pioneered and led by Wolfram Research, notebooks provide an intuitive, all-in-one environment for interactive research, development and deployment.

Deep Domain Expertise in Computational Fields

From machine learning to data visualization to web deployment, we bring together specialized knowledge in key computation areas to optimize implementation.

Delivery of Functioning Software, Not Reports

Our interactive solutions give you the power to explore alternatives through live, data-driven deployments rather than confining you to pre-generated results.

Both Computational Expertise and Our Own Technology to Back It

We pair unparalleled expertise in Wolfram technology integration with diverse computational backgrounds to help you achieve your goals with speed and efficiency.

Decades of Leadership in Computation

We have an extensive record of innovation in technology and science, inventing the computational future since 1988.

Intelligent Application of Computational Technologies

Drawing from our diverse backgrounds, we utilize a variety of languages, packages and frameworks—WebGL, SPARQL, Node.js and more—to ensure the most thorough results.

Enterprise Computation, Accessible Anywhere

We offer tight integration with public and private cloud technology for immediate, secure access to your data and computations.

Let's Take Your Project to the Next Level

Whether individual or enterprise, from concept to deployment, our computation experts can help you achieve robust results with less time and effort.

➔ consulting.wolfram.com

1-800-WOLFRAM (965-3726)
+1-217-398-7181 (outside US & Canada)
Wolfram Research, Inc.

+44-(0)1993-883400
(Europe & the Middle East)
Wolfram Research Europe Ltd.

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