EM002

Multi-Sigma®

By AIZOTH

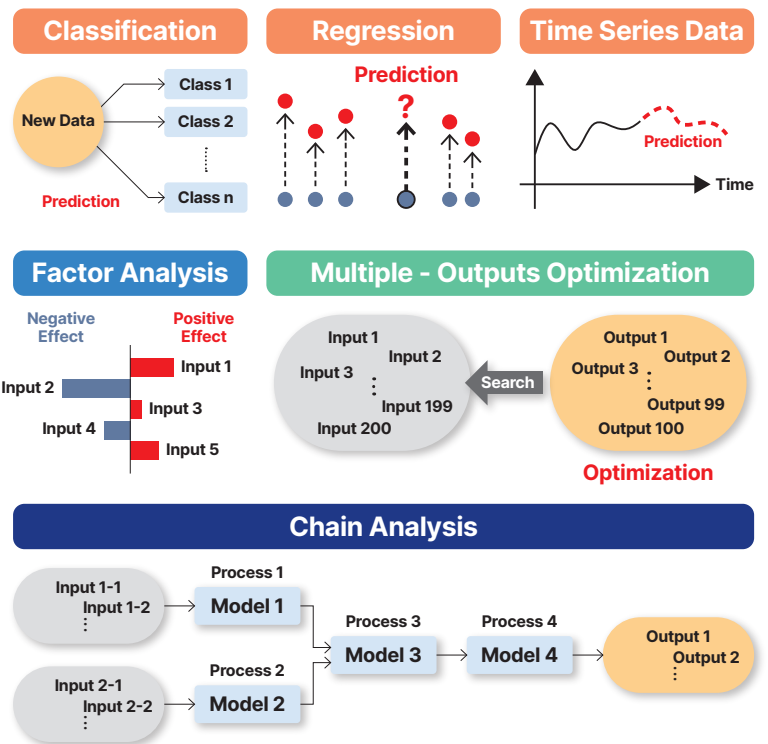## Optimize R&D with AI-powered analysis

Multi-Sigma® democratizes sophisticated AI analysis techniques while cutting time and costs associated with R&D experimentation

Multi-Sigma®

No-Code and Cloud-Based Explainable AI

Plan — Design of Experiments
Do — Experiments
Check — Prediction
Action — Optimization

- ✓ Cloud-based application
- ✓ Highly accurate prediction
- ✓ Explainability through factor analysis
- ✓ Multiple-outputs optimization

Classification
New Data → Class 1, Class 2, ... Class n
Prediction

Regression
Prediction
?

Time Series Data
Prediction
Time

Factor Analysis
Negative Effect / Positive Effect
Input 2
Input 1
Input 3
Input 4
Input 5

Multiple - Outputs Optimization
Input 1, Input 2, Input 3, ... Input 199, Input 200
Search
Output 1, Output 2, Output 3, ... Output 99, Output 100
Optimization

Chain Analysis
Input 1-1, Input 1-2 ... → Process 1 Model 1
Input 2-1, Input 2-2 ... → Process 2 Model 2
→ Process 3 Model 3 → Process 4 Model 4 → Output 1, Output 2 ...

Applicable to a variety of fields:

- Mechanical Engineering
- Agriculture
- Healthcare & Medical Sciences
- Sales and Marketing
- Chemical Engineering

Trusted by 100 + leading organizations:

KAGOME · SWCC GROUP Creating for the Future · MIZUNO · muRata INNOVATOR IN ELECTRONICS · Topre

Trusted Security with Environmental Responsibility

- · Hosted securely on Google Cloud
- · Data recovery ensured even in disaster scenarios
- · Regular penetration testing by third-party experts
- · CO_2-free cloud infrastructure

Dr. Kotaro Kawajiri
Founder, AI Expert, Head of R&D

AIZOTH 2014-Present · OECD 2019-2020 · MIT 2011-2013 · AIST 2005-2023

AIZOTH Mission

Empowering organizations to leverage AI to enhance processes and improve outcomes

Ecotech Grand Prix **CORPORATE AWARD** 2021
TCI Venture **EXCELLENCE AWARD** 2023
Ibaraki Innovation **EXCELLENCE AWARD** 2023
Outstanding New Technology/Product for SME **EXCELLENCE AWARD** 2023
AI Summit London **Finalist** 2025

Get started effortlessly

Upload a CSV file and see optimized analysis in a cloud-based, browser-friendly platform

Google Cloud

Free Trial

Contact us to start your one-month free trial or schedule a free consultation: info@aizoth.com | https://aizoth.com/en/

AIZOTH

AIZOTH
A leading-edge Japanese company driving innovation

Multi-Sigma®

Drive Innovation in Your
Research & Development with **AI**

1 From Standard to Superior

Conventional Solutions	VS	Multi-Sigma®
Large-Scale	**Data Required**	Small
Moderate	**Accuracy**	High
Black-box	**Model Interpretability**	Explainable
Single Target Variable	**Output**	Multiple Target Variables
Expert Knowledge Required	**Expertise**	No Expert Knowledge Required
Code Required	**Programming**	No-Code
High-End Hardware Required	**Machine Specifications**	No High-End Hardware Required (cloud-based)

2 Cost Reduction and Productivity Improvement

Case 1 **Materials Engineering**

AIST

7,200 experiments are typically **required**

Only **30 to 60** experiments can be **sufficient**
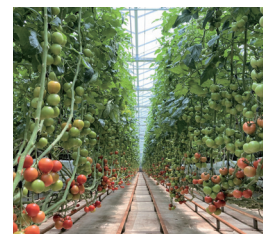**Multi-Sigma®** successfully reduced the number of experiments by more than **99%**

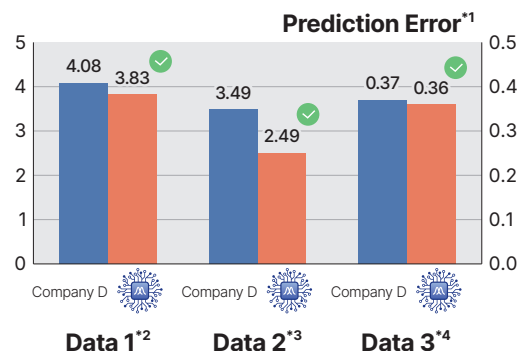Artificial Heart
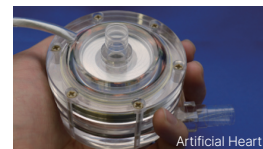
Case 2 **Agriculture**

KAGOME

Crop yield **prediction** is extremely **challenging**

High-accuracy predictions can be achieved
up to 5 weeks in advance
Multi-Sigma® provides highly accurate yield predictions, making **strategic logistics** and **sales planning** possible

3 Unmatched Performance

Multi-Sigma® can achieve predictions with even **smaller errors** than the industry-leading product.
A significant contribution to **decision-making precision** and **operational efficiency**.

Prediction Error[1]

	Company D	Multi-Sigma
Data 1[2]	4.08	3.83
Data 2[3]	3.49	2.49
Data 3[4]	0.37	0.36

Data 1[2]   Data 2[3]   Data 3[4]

[1] : Error is evaluated using Root Mean Squared Error (RMSE),
[2] : Concrete compressive strength (plotted against the left y-axis),
[3] : Boston house prices (plotted against the left y-axis),
[4] : Pima indian diabetes data (plotted against the right y-axis).
(All the data are from Kaggle: https://www.kaggle.com/datasets)

Consulting Services

We, AIZOTH, also have a team of experts, including PhD holders in fields such as engineering, commerce & management, science, and statistics, as well as AI engineers and former researchers from national research institutes.

Training and Lectures:
We offer expert-led lectures and training on AI analysis and Multi-Sigma®. We also provide hands-on data analysis using your own data, tailored to your needs.

R & D support:
We collaborate with your team through regular meetings to track progress, exchange insights, and align with your goals. Our support covers everything from data analysis to AI application development, tailored to your needs.

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