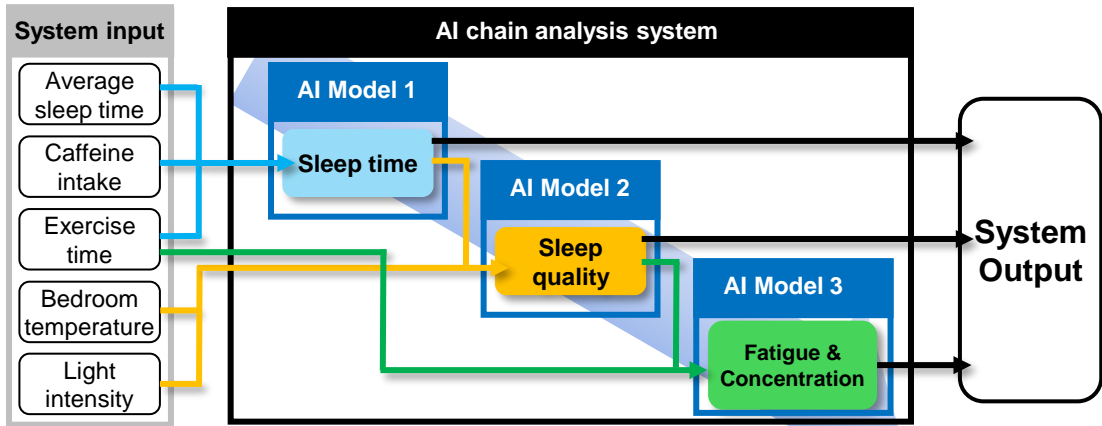


# Optimizing Sleep Conditions through AI Chain Analysis using Multi-Sigma®

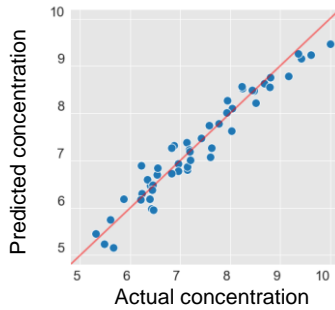
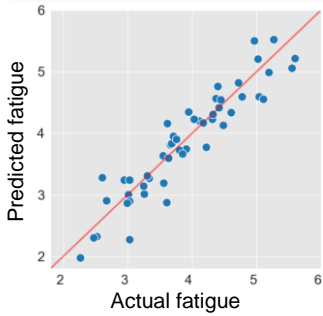
AIZOTH's AI analysis platform Multi-Sigma® combines three AI models to find sleep conditions that minimize fatigue and maximize concentration the next day.

## 1. Training and chain analysis of multiple AI models using Multi-Sigma®

Using Multi-Sigma's AI chain analysis function, you can build AI models for individual processes and link these AI models to perform prediction, optimization, and factor analysis.



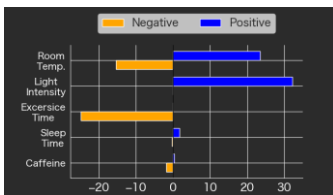
## 2. AI chain analysis prediction



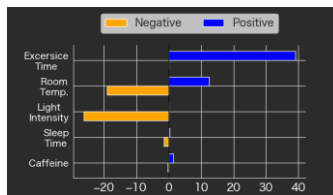
By linking the three AI models with Multi-Sigma's AI chain analysis function, it is possible to predict output data (next day's fatigue and concentration level) from input data (past average sleep time, amount of coffee consumed, exercise time, bedroom temperature, and light intensity)

## 3. Factor analysis and optimization using AI chain analysis

By linking the three AI models, it is possible to calculate the contribution of the initial input data to the final output (fatigue and concentration level).



Factors Analysis (fatigue)



Factors Analysis (concentration)

By linking the three AI models, we can identify the optimal conditions to minimize fatigue and maximize concentration.

		Exploring optimal sleep conditions				
Fatigue	Concentration	Sleep time	Exercise time	Caffeine	Room temp.	Light intensity
		1.864	9.550	7.671	57.544	3.579
1.867	9.548	7.880	57.544	3.889	20.857	1.738
1.879	9.541	6.578	57.544	3.889	20.857	1.738
⋮	⋮	⋮	⋮	⋮	⋮	⋮
Min	Max					

AIZOTH inc. provides a range of AI services, including Multi-Sigma®, AI consulting, experimental condition optimization support, and contract research and development. Multi-Sigma® is a cloud-based AI software designed for research and development, significantly reducing experimental workload and enabling researchers to discover innovative solutions to real world challenges with minimal experimental datasets.

<https://aizoth.com/en/service/multi-sigma/info@aizoth.com>

