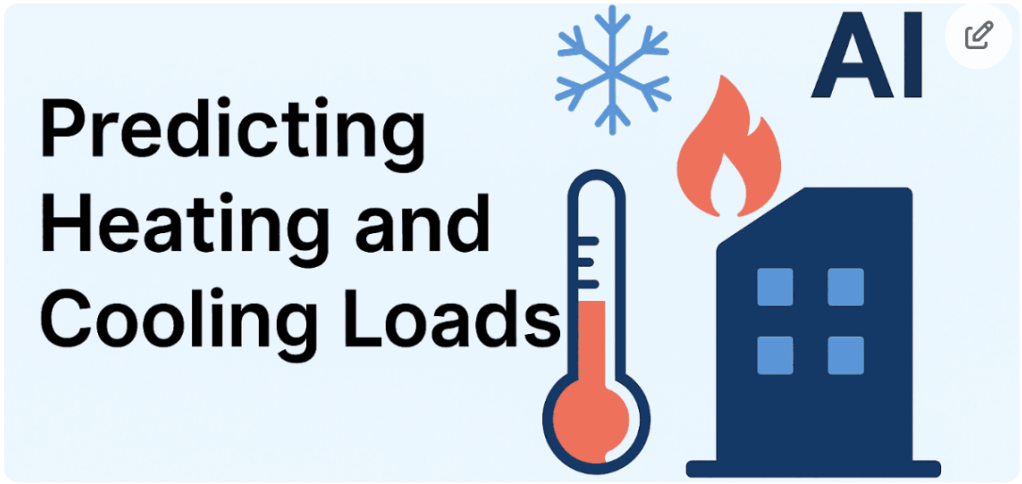
Preview



Optimizing Energy Use in Buildings

Contributor: Thrive
Company: Kiron
Company origin: Germany
Implemented in: Germany

Type: Industry | Stage: Implemented

AI use case attributes

Industry
Energy • Real Estate Management and Development • Others

Organizational function
Research & Development • Others

Value gain
Cost Saving • Increased Efficiency • Research & Development • Others

AI capabilities
Analysis • Optimization

Data source
Structured

Technology type
Supervised learning

Foundation model(s)
None (classical ML models used: Linear Regression, Random Forest).

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About
Terms of Use

Brief description

Predict heating and cooling energy demand for residential buildings using architectural features (relative compactness, surface area, wall area, roof area, height, orientation, glazing) to support energy-efficient design decisions.

Challenge

Energy saving during heating and efficient cooling of premises. Factors that have the greatest influence.

Solution

Machine Learning for predictive analytics. Determining which factors have the greatest impact on heating and cooling of spaces, in order to further implement this information into building design, which will lead to cost reductions in the future.

Implementation proficiency

AI maturity

Experimenter

Risk classification

Low risk

Implementation competence

Low

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Solution

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Outcome

Reduced heating/cooling loads through optimized design (compactness, roof/wall optimization). Example: 1 kWh/m² annual reduction * energy price (€/kWh) * area (100 m²) = annual savings estimate.

Implementation competence

Low