PowerCo

PREDICTING CHURN

Major electricity provider

supplying coorporate, small, and medium-sized enterprises, and residential customers.

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CHURN IS A SILENT PROFIT KILLER.

10%

Liberalization of the European energy market caused **significant customer churn.**

Acquiring new customers can be **5 to 25 times more costly** than retaining current ones.

Savings by addressing churn can be **reinvested into innovation or growth.**

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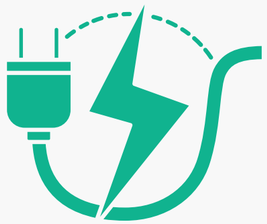
Client tenure, months to end, months since last renewal and more.

CONTRACT



Historical and foreasted **electricity and gas usage.**

CONSUMPTION

Typical **costs** and price **volatility** during consumption periods.

PRICE

FEATURE ENGINEERING

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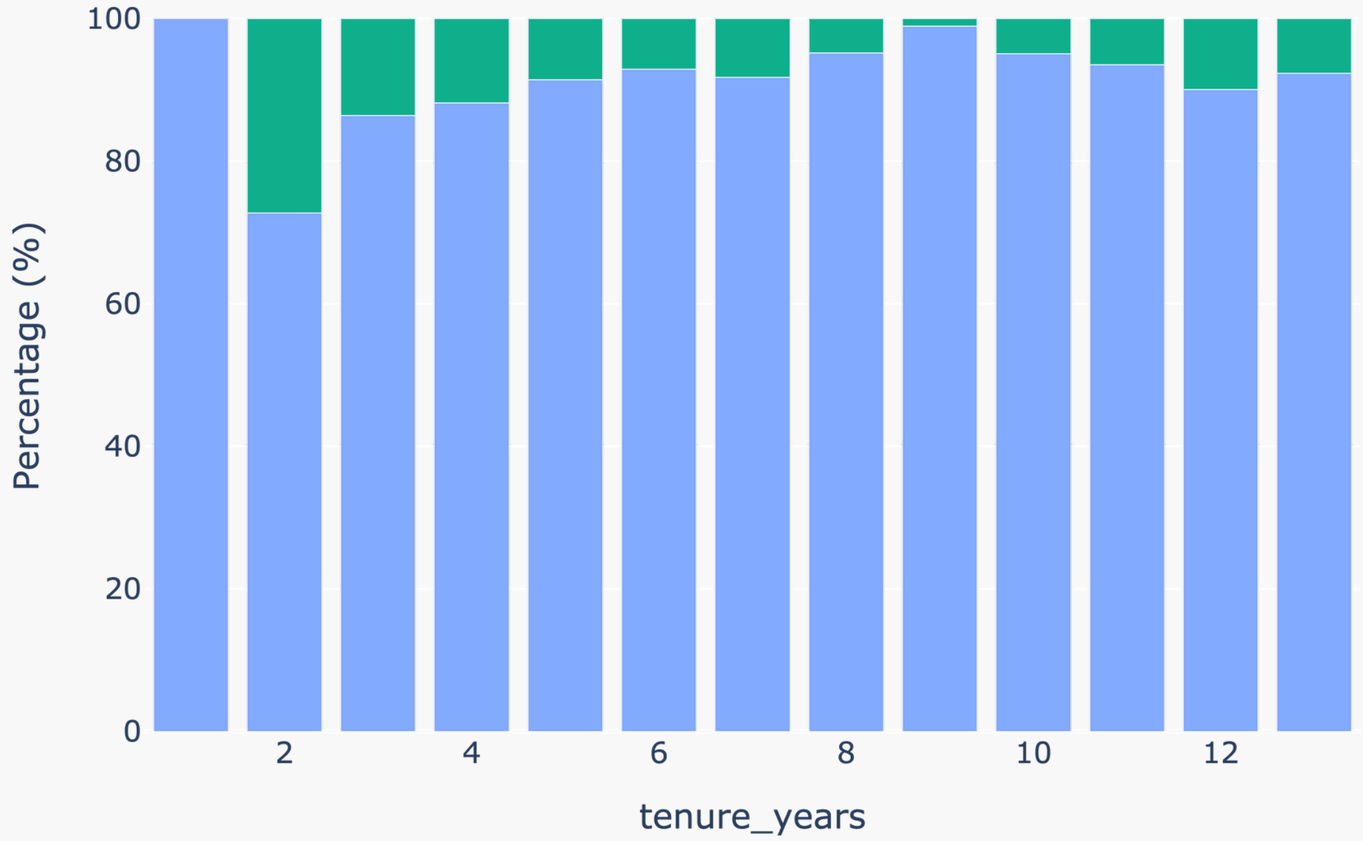
CHURN DISTRIBUTION

TENURE YEARS



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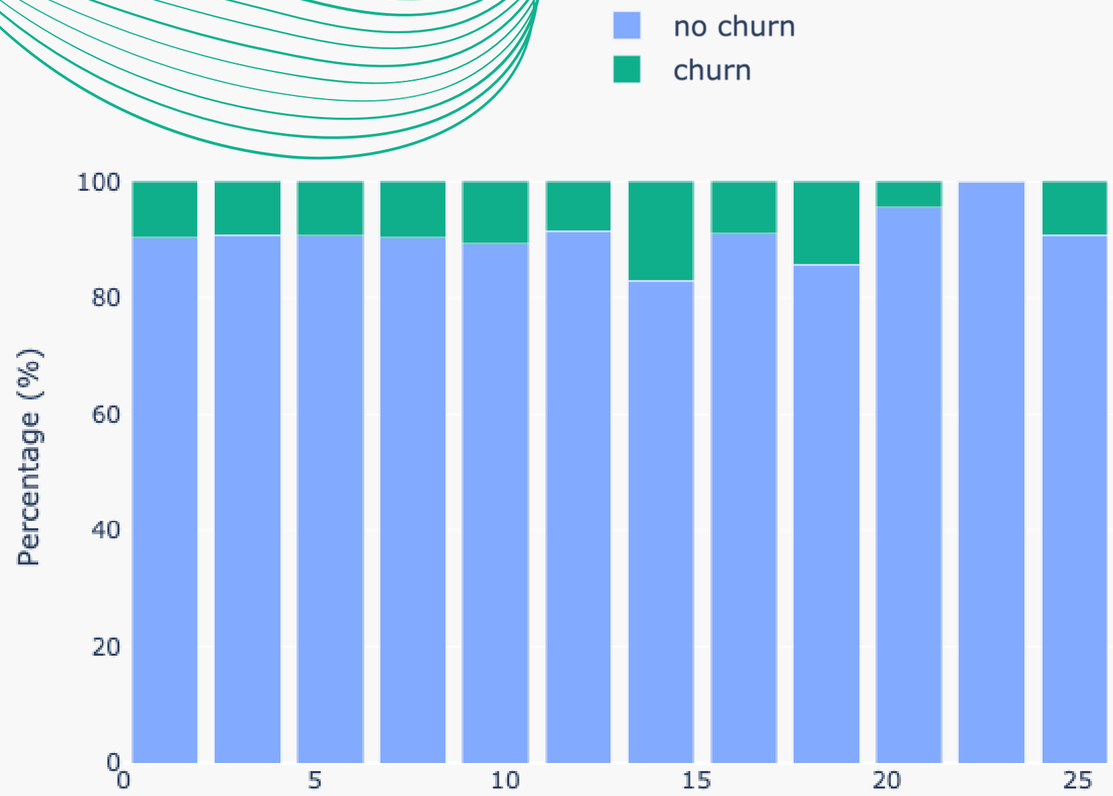
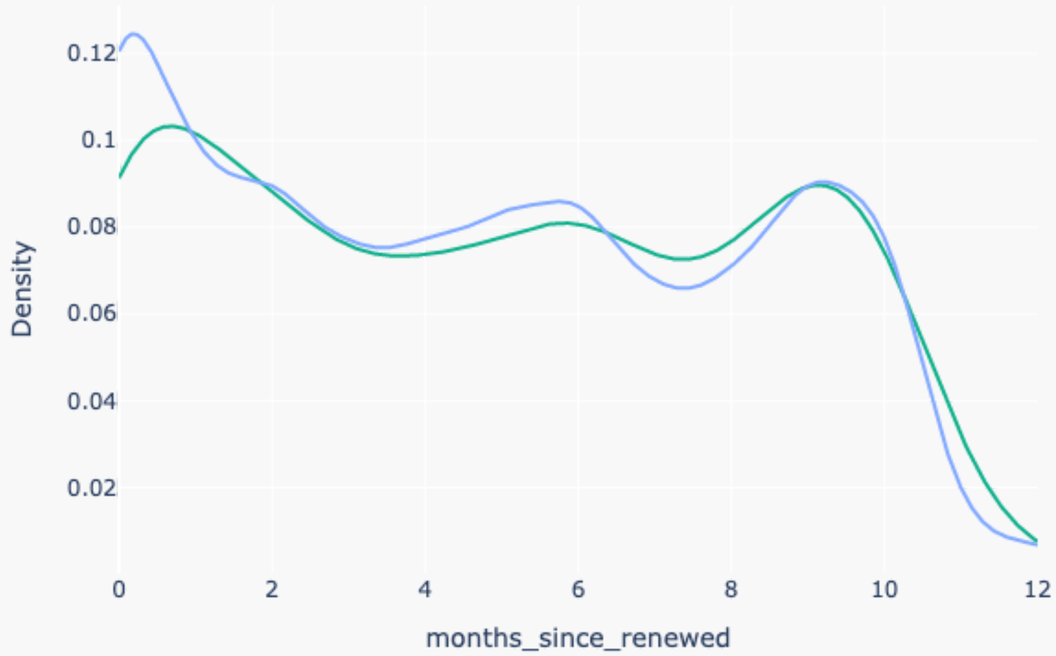
CHURN DISTRIBUTION

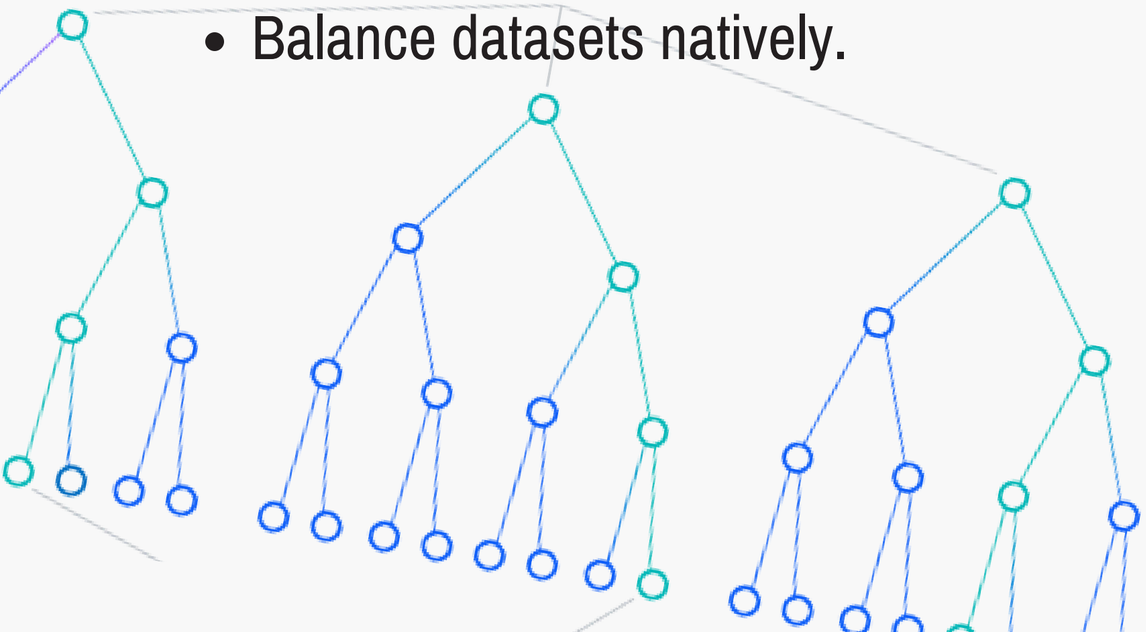
MONTHS SINCE LAST RENEWAL OF THE CONTRACT





RANDOM FOREST ALGORITHM

- Handle complex, non-linear feature relationsships.
- Robust against overfitting.
- Balance datasets natively.



Balanced dataset

4/1 train/test split

Bayesian optimization maximizing for recall

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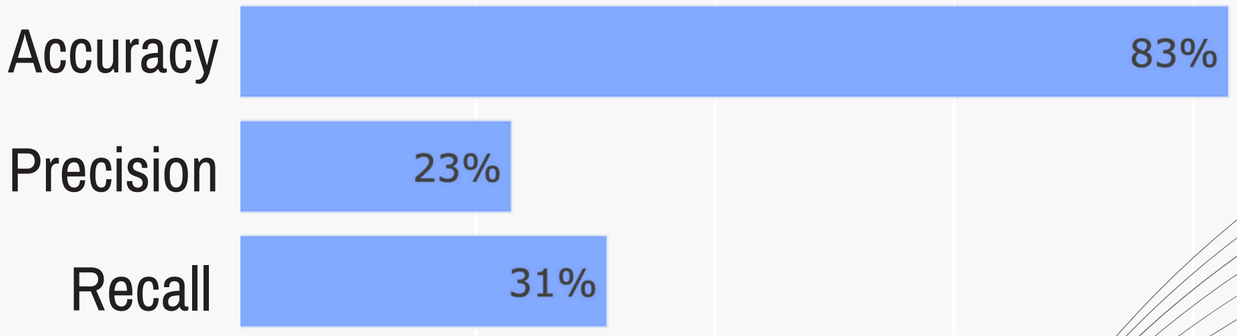
MODEL PERFORMANCE

- **Accuracy fails** to detect the minority class (churners).
- **False negatives** (missed churners) are far more **costly** than false positives.



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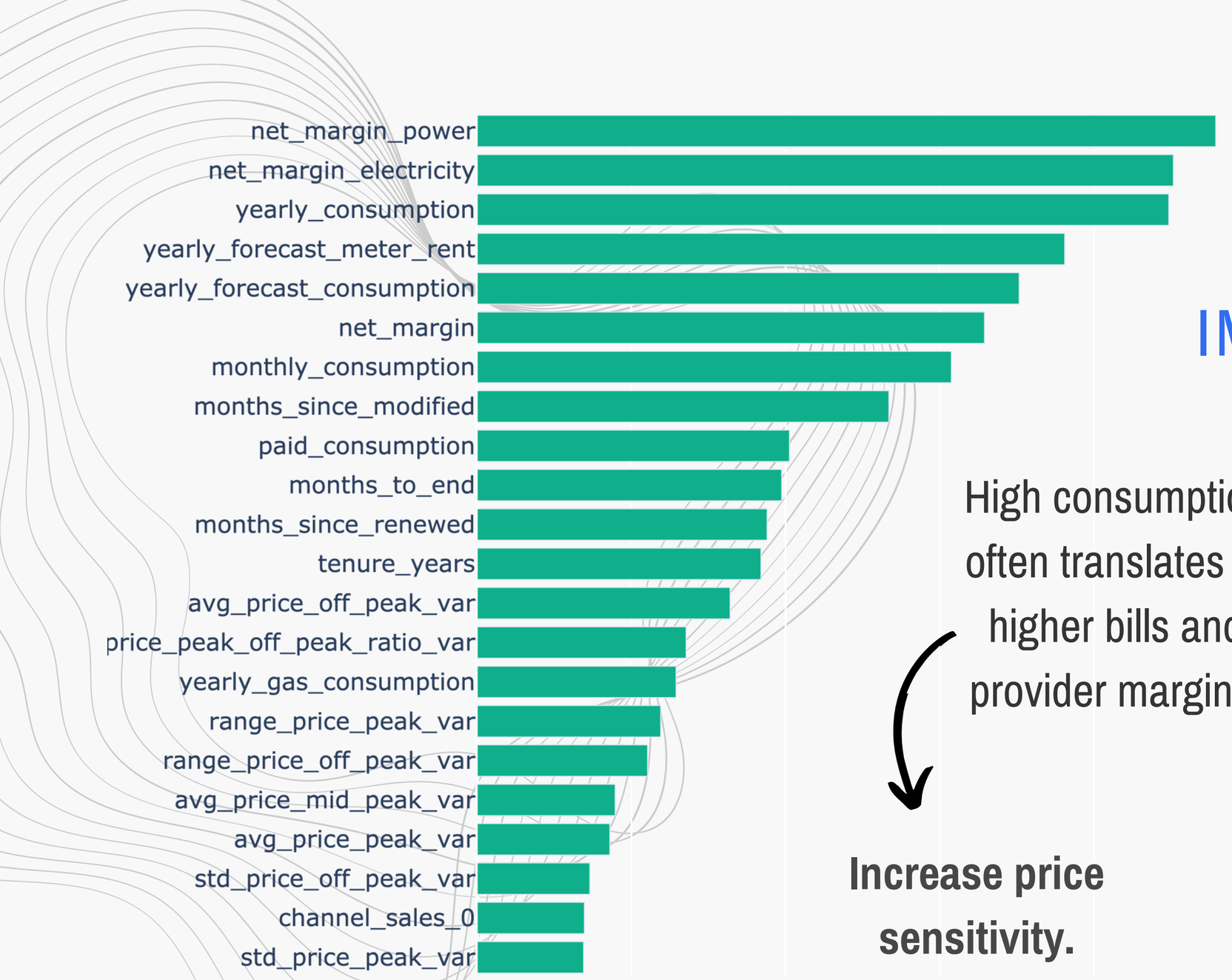

FEATURE IMPORTANCE

High consumption often translates to higher bills and provider margins.

Increase price sensitivity.

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OFFER TAILORED DISCOUNTS OR BONUS PROGRAMS FOR HIGH CONSUMPTION CUSTOMERS.

CALL TO ACTION

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