



## HOW ML ADOPTION BENEFITS YOU

Machine learning can help any lender increase revenue and reduce risk through better underwriting, but it does present new concerns for the regulatory compliance team. ZestFinance Automated Machine Learning (ZAML) software was built to solve these concerns.



**Ensure model fairness and transparency.** ZAML software is already great at identifying hidden bias in credit models. Our new ZAML Fair tools go even further, letting you fine-tune any ML model to produce the maximum fairness at any target rate. ZAML provides explainability down to the applicant level so you can be confident your model is making safe and fair decisions for customers across applicant pools.



**Safely develop and deploy your model.** Our tools ensure that your ML underwriting model can satisfy all regulatory and compliance requirements, including ECOA, FCRA, and UDAAP. You will be able to fully explain, document, and validate the way the model was built and how it arrived at every lending decision.



**Confidence in your adverse action reasons.** Our explainability tools open the notorious 'black box' of machine learning and directly interrogate a model and its decisions. ZAML generates accurate and consistent key codes to feed into your adverse action and customer notification processes.



**Automated model risk management documentation.** Our tools automate the creation of the comprehensive regulatory documentation expected by the OCC, Federal Reserve, and FDIC. With a push of a button, you can produce a report in minutes with all key model details, data, and decisions. This manual process used to take months.



**Recognition as a compliance leader.** Most AI models get stuck in the lab because regulatory explainability requirements can be exceedingly difficult to satisfy. With our tools, you can lead your organization and industry as a champion of the responsible adoption of AI.

## WHAT YOU SHOULD KNOW

Among the most frequent questions we get from the regulatory compliance teams:

### How is my job going to change?

Not much. Our tools take advantage of the latest AI to ensure that your ML models are fair, transparent, safe, and satisfy all regulatory and compliance requirements. They give you the same information you need today to do validation and oversight but in a more powerful, ML environment.

## **How does ZAML facilitate adverse action for ECOA Reg B? How are the specific adverse action reasons generated? Can the mapping and reasons be reviewed or changed?**

ZAML software lets you fully explain for any applicant decision the impact of each variable and the impacts of the complex interactions among those variables. That lets you identify the specific reasons for the adverse decision and comply with Reg B requirements. Models built using ZAML facilitate an accurate and consistent adverse action mapping process. You may choose to supplement additional reasons should the model include new data sources or variables previously not used in underwriting.

## **What data are my ML models using? Is the use of this data fair from a Fair Lending and UDAAP perspective?**

ZestFinance helps you take better advantage of the data you own or to which you already subscribe. But instead of relying on aggregated credit scores, our tools allow you to use the raw data that make up those credit scores by looking at the underlying credit report. The resulting models are able to harness a much larger number of variables in credit decisioning. In some cases, customers have also supplemented that data with customer application data and other data from third-party sources such as LexisNexis, Clarity, and e-Bureau. However, we do not engage in screen-scraping or use social media data.

ZestFinance as a practice does not use any variables that would be correlated to discrimination against a protected class, such as age, sex, marital status, ethnicity, and race. Our ZAML Analyze and Fair tools ensure that we can identify each and every variable of our models that could lead to disparate lending outcome – and enable our clients to pre-emptively remove or attenuate them.

## **How does Zest conduct Fair Lending analysis and allow clients to take steps to mitigate risk?**

The Consumer Financial Protection Bureau (CFPB) issued interagency guidance requiring lenders to account for any differences in loan approval rates between a number of different protected classes and a reference white population (often referred to as BISG methodology).

Our ZAML Analyze tools allow you to proxy for protected classes or use hard data sets to evaluate average approval and denial rates for those classes and identify the variables driving those outcomes. It then allows our clients to compare those variables to those driving the outcomes of a White reference population or control group. Clients can then take appropriate action to either remove those variables that drive disparity but not performance, or attenuate the ones that do drive performance but reduce their disparity to an acceptable level.

## **How do your models maintain compliance throughout their lifecycle?**

ZAML models do not change overnight or quickly. They do not ‘self-learn.’ Yet the model’s fairness or performance may degrade over time without any action. ZAML mitigates this risk with an automated model risk monitoring tool that can detect subtle changes in model operating conditions, such as shifts in the borrower applicant pool or in the economic environment, to identify whether the model’s fairness or performance has changed. These tools alert you when a change has occurred so you can decide if a model refit or rebuild is necessary.