

The Artificial Intelligence-based modelling suite from Jaywing





Transform predictive modelling with AI

Archetype is our new Artificial Intelligence (AI) based modelling suite for advanced predictive modelling. It uses true AI, with machine learning techniques and algorithms such as deep neural nets, to squeeze vastly more insight out of your data than traditional techniques.

Designed by modelling experts Jaywing, to meet the needs of organisations who want to get the most out of their investment in data. Archetype can be used to model almost any outcome on almost any data set - whether that's in credit risk, fraud, marketing propensity, digital activity or a host of other fields.

Uniquely powerful

Achieve a projected Gini uplift of up to 10% - based on our testing versus traditional regression methods - using the same development and outcome data.

Acquire more profitable customers with less risk – with fewer losses resulting from fraud and better customer targeting.

Gain capacity to continuously evolve - the models can continue to learn against live data, removing the need to monitor or re-deploy.

Uniquely simple

Impose constraints easily – you can ensure the model behaves in an intuitive, understandable way.

Free your analysts to do more – Archetype can reduce the development of a model from days to hours. By automating time-consuming aspects of modelling, Archetype enables your team to produce ever more accurate models more easily, perhaps introducing data sources you wouldn't have been able to use previously.

No additional IT requirements needed – secure, browser based product with a straightforward interface.

Deeper

insights

How does Archetype work?

Archetype uses the latest Artificial Intelligence techniques to generate its models. We've thrown out the traditional linear regression approach in favour of an AI-based method that uses deep neural nets to squeeze every drop of insight from the data you supply.

Archetype's Al processing engine uses insight from deep within your data to generate its models, using techniques that are, in practical terms, not possible using standard tools.

Where general AI approaches might result in unintuitive models, Jaywing has developed a means of making sure that models obey common sense relationships specified by the user – meaning that Archetype models can be understood by the business and signed off through normal governance routes.

You have control of the data that make it through to the final model, as well as how that data should be handled within the model itself, where it matters. Secondly, although it is an expert modelling system, there is no need for statistical experience, and the design is such that a user with a good knowledge of your data could create a model in a fraction of the time of a traditional project, normally with better results.

This will enable your models to be updated and re-deployed much quicker than current practices, ensuring that your scoring processes are as up to date as the data that drives the models, simultaneously reducing the size of any deployment step.

Intuitively better

How do I use Archetype?

Archetype consists of an intuitive front end interface accessible via a browser, together with an advanced modelling engine that uses the latest techniques to execute neural net models at speed and with a high degree of accuracy.

The interface has been designed by Jaywing's web development team, who have extensive experience of developing intuitive, user-friendly interfaces.

The modelling engine has been developed by Jaywing's modelling experts who have years of experience in advanced modelling techniques. The system has been deployed using new technologies on servers specifically configured for the advanced processing that AI demands.

The system is simple to use, and does not require extensive statistical knowledge of modelling to get excellent results. It's hosted on Jaywing's secure infrastructure, making it simple to switch on and get started, with no IT requirements on your part other than the use of a browser and the creation of your modelling data set.

Running the models in live

Once they've been created, models are saved and versioned alongside all of the documentation that was generated in the execution process. As you would expect, the Archetype models are more complex than a traditional scorecard, but we make implementation straightforward, offering a variety of options for deployment – including on your existing decision systems.

There are a number of options for running the models using new data:

Archetype models can be executed within the interface itself by uploading a file of input datauseful for batch-based processes or model monitoring/comparison.

Archetype outputs its model execution code scripts in a range of formats for deployment within external scoring systems.

Coming soon! We will shortly be adding the capability to run Archetype models directly from your own decision system.



Step Two

such as credit bureau files.

The system has an initial look at the data and lets you know what it thinks. You can disagree, adding or removing characteristics, clarifying the way data is categorised or handled, and if necessary, constrain particular variables so the system will only let them behave in a particular way – useful in some credit modelling contexts.

information for future modelling projects, or upload standard definitions for use with third party data,

Step Three

Click a button to generate the model. Once it has executed, Archetype will show you a succession of charts and graphs, which explain the predictive power of the model, how the input fields are used in the model, and the quality of fit for each of them. Not happy? Tweak the data and settings and run it again. When you're happy, you can name and publish the model, at which point the charts and data outputs are saved to a separate part of the system along with the model definition, for audit purposes.

Key benefits

Archetype represents a step change in the way that model development is undertaken. It will deliver significant uplift in performance compared to a similar model built using the same data. The size of the uplift will depend on the quality and nature of the existing model, and the data that was used to generate it.

Generate models with a Gini cofficiency up to 10% higher

Our tests suggest that Archetype can generate models that have a Gini coefficient up to 10 percent higher than the best possible model generated under traditional regression methods – based on exactly the same data.

Optimise business results

The business impact of this will vary with each business and model type – more profitable customers, less risk acquired, fewer losses resulting from fraud, better targeting of existing customers and prospects alike.

Use more data than ever before

The incorporation of big data into models is usually constrained by the requirement to manually attend to each variable individually under traditional modelling techniques. The automated modelling and data processing power contained within Archetype will enable you to incorporate data previously excluded due to processing time or cost, delivering even bigger benefits.

Increase productivity beyond human potential

It enables advanced models to be generated without needing a team of analysts specialising in deep neural nets and AI techniques.

Automation of manual model development process

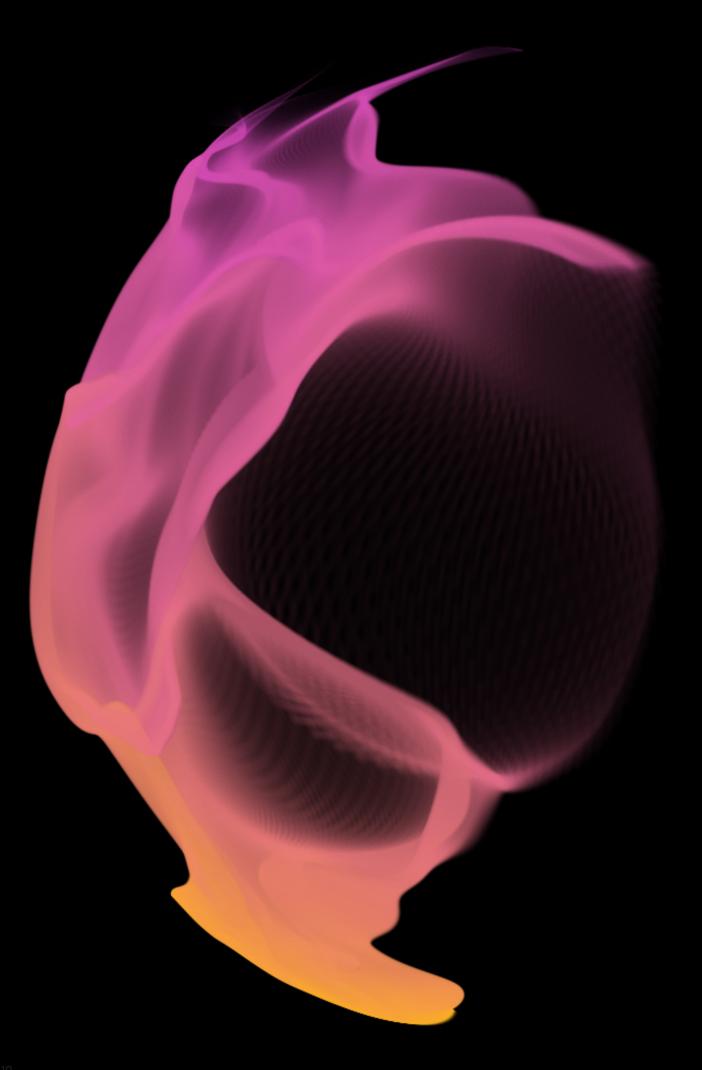
It equips your team to produce better, clearer, deeper models without having to grow your analytical capability or team.

Generate more advanced models quicker than ever before

It undertakes a series of complicated modelling steps in a fraction of the time of a traditional project, meaning that you can re-optimise your models frequently, at a fraction of the cost, and generate more models for more purposes.

Ongoing machine learning against live data

In due course, and for the right contexts, Archetype will evolve to enable the ongoing learning of the models against live data, ensuring that the model remains optimal at all times. Archetype offers the real possibility of always-optimised models that constantly learn and update when they need to.



Control & constrain

Archetype has been designed from the ground up to cater for the rigorous environment of credit risk management. We selected this field for two reasons: firstly, because Jaywing has an enviable reputation and heritage in this field, and it's one of the areas of modelling that we know best. In addition, we know that the rigour and constraints that are a requirement for credit modelling teams are likely to be the most exacting requirements we face – get it right here, and we've cracked the problem for most fields.

What that means in practice is that Archetype gives you the option to constrain the models to ensure that they behave in an intuitive and understandable way.

Your business might expect credit risk to increase as salary levels decrease. Or you might expect it to decrease as disposable income and affordability improves, and want the model to reflect that change whenever these changes are evident.

Alternatively, you might not have a view on what ought to happen.

Within Archetype's modelling interface, you can impose these constraints as you see fit, meaning that when it comes to getting the model approved, you can demonstrate that the model adheres to these intuitive business rules.

This makes Archetype the perfect solution for model development in areas such as application and behavioural scoring.

However, adding such constraints is optional. For some applications, such as fraud detection or propensity scoring, the key requirement is to maximise detection or profitability, with limited consideration for how the model behaves on the way to the result. For such applications, use of Archetype is even simpler, as the data evaluation steps can be viewed as optional.

Archetype generates robust models that will outperform most existing approaches.

The fredom to be creative

Archetype frees you up to spend time asking 'what if' questions, while the system does the hard part. Freed from data constraints, modelling specialists can start to explore what happens when novel data sets are included within the modelling process that might not normally have been considered for inclusion, with Archetype always generating the best possible model based on the data that is included in the modelling process.

That might result in uncompromised multi-bureau models where external agencies have different views of the same customer, as well as unique data sets that add value. Or an entity-specific version of a bureau score, enhanced with other data.

It might mean the inclusion of social data, or an exploration of how data captured within the online application process feeds in to the credit risk assessment.

Or it may mean diving deeper than ever before into transactional history data, to see what impact factors such as affordability, income, expenditure and line-level spend categories have on the outcome of a model which may not have been traditionally used.

With each iteration of the model, the user can discard characteristics that have proven not to add value, arriving eventually at an optimal set of input data that results in the best possible outcome. Not necessarily using lots more data, just making the best use of it.

About Jaywing

At Jaywing, we combine traditional analytical and data science expertise with today's cutting edge Al risk technology.

Whatever the challenge, we have the capability to deliver it – from managing structured and unstructured data to producing faster and more robust analyses and the algorithms that automate real time decisions.

Our approach gets the most out of all data and puts risk management at the pinnacle of data science.

We have a wealth of experience in the banking and lending sector and our team of experts have developed industry leading ways of using data and systems to help you manage credit and fraud risk and meet the ever-increasing regulatory demands of now.

Using our industry-leading expertise and trusted partner way of working, we've held many long-standing (10 years +), large-scale relationships with some of the UK's leading financial services names.

But we're just as happy serving smaller projects, as flexibility is one of our core strengths. You can use as much or as little of our expertise as you need and our team will scale up or down, from 1 to 100, changing to suit the requirements of specific projects.



Archetype is available on an annual licence, which means that you could be producing advanced models within days.

We can run an initial evaluation based on your most recent model development and data, to show concretely the difference that Artificial Intelligence could make to your acquisition, sales or risk management processes, and show how Archetype could shift your business goals based on the same inputs on which your current model is based.

Archetype is also available as a consultancy service, with Jaywing's consultants ready to deliver ground breaking new models on your behalf.

Call our risk specialists on 0333 370 6600

or email risk@jaywing.com



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