UNIFIED, END-TO-END DATA SCIENCE FOR THE ENTERPRISE

Altair® AI Studio™, Altair® AI Cloud™, and Altair® AI Hub™ software unifies the entire data science lifecycle from data exploration and machine learning to model operations and visualization.

Altair® AI Studio™: Design and prototype highly explainable AI and <u>machine learning</u> models. Its visual drag-and-drop workflow designer is perfect for non-coding domain experts and it offers a range of sophisticated automated machine learning (AutoML), <u>generative AI</u>, and interactive <u>data prep</u> capabilities.

Altair® AI Hub™: Connects software programs, pulls data from anywhere, and enables better decision-making. It promotes real-time communication and widespread re-use of work while ensuring that your projects and data are only viewed by people with the proper permissions.

Altair® AI Cloud®: Enterprise-ready data science platform that handles everything from data prep to model ops. Integrate it with your existing systems and data sources to streamline collaboration across teams. The software supports full automation for novices, an integrated notebook environment for data science experts, and a visual drag-and-drop designer for those in between.

These products are components of the <u>Altair® RapidMiner® AI and data analytics platform.</u>

Comprehensive Code-Friendly Development Environment
Experiment, fine-tune, and create complex AI and machine learning models in a fully integrated notebook environment. All Altair AI data analytics products support coding in Python or R.

Smart, Guided User Experience
Altair AI Studio and Altair AI Cloud software's award-winning AutoML tools support automated clustering, predictive modeling, feature engineering, and time series forecasting. Business users without coding expertise can use the software's powerful, intuitive drag-and-drop canvas. The software's ability to support code-based development and visual workflows bridges the gap between domain and data experts.

Experienced data science teams can work more efficiently and users new to machine learning can build and test production-ready models quickly. The software supports one-click deployment of AutoML models and simplifies operating predictive models trained with AutoML as REST API endpoints.

This software leverages the work of millions of users to improve the overall user experience: start building your model and the software will automatically recommend appropriate operators. Altair AI Studio and Altair AI Hub also support generative AI models. Based on your prompts, the software will add and configure operators or automatically transform data, build machine learning models, or produce visualizations.

Visual Workflow Tools Simplify Model Deployment and Management
Once you've completed a model, use Altair AI Hub and Altair AI Cloud's graphical interface to package, deploy, and manage it. The software's drag-and-drop workflow makes it easy to reuse models for new applications.

Scalable for Enterprise Deployments
The Altair RapidMiner platform makes it easy to distribute and consume the insights your AI models generate at scale. Add users, scale up, and embed models wherever they can deliver the greatest impact for your business—all without compromising your data's security or integrity.

Deploy Altair software at the workgroup, operating division, or global enterprise level. Implement on any major cloud platform, on premises, or take a hybrid approach for the best of both worlds. Evaluate, compare, monitor, and manage machine learning models at scale.

The software supports effective security and solid governance. Authenticate users, authorize their access, encrypt data, and audit everything as needed. Maintain full control over who is accessing data and visibility into the data itself. Ensure that every insight your team generates is based on credible information.

Explainability and Transparency
Prevent the erosion of trust and overcome a lack of process in AI and machine learning by collaborating in an auditable environment with explainable, understandable models and interactive apps.

Data Connectivity
Connect directly to your organization's data sources – including files, databases, data lakes, and Internet of Things (IoT) data streams.

Comprehensive Data Transformation Capabilities
Data prep and transformation operations are crucial to integrating data from disparate sources, ensuring data quality and consistency, facilitating efficient storage and retrieval for analysis, and improving the performance of machine learning models.

Altair RapidMiner allows domain experts without coding experience to build effective data transformation models quickly. Data scientists can also build complex models in the software's complete development environment. They can combine elements created in Python or R with elements created by the software itself using the software's visual workflow editor.

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...helps us evaluate and communicate our concepts in a simple and understandable way, and also expedites our data-driven transformations... Our information collection, model confirmation, data augmentation, and visualization methods have all changed considerably. This has completely changed the approach we handle our database schemas, how we achieve success and make long-term plans, and how we make decisions... It's applicable for each and every use case, sparing us a tremendous quantity of effort and resources.

Corporate Communications Manager
Industry: IT Services

EXAMPLE USE CASES

Churn Prevention

Customer churn keeps acquisition costs high, complicates long-term planning, and can result in net losses per customer. Even if you turn a profit before a customer leaves, you lose additional cross-sell, upsell, and referral revenue. For every customer who complains, provides critical feedback, or warns that they're planning to leave before doing it, there are several who close their accounts or stop buying without notice.

Altair AI data analytics software makes it possible to know which customers are likely to churn and why. Use all available information about your customers—not just the obvious signals—to determine who's likely to churn so you can take preventative action and avoid attrition.
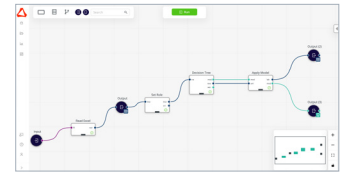
- **Find red flags:** Analyze customer data like product usage, purchase history, and other relevant risk factors that aren't as obvious as complaints.
- **Take preventative action:** Reach out to at-risk customers to hear about their experience, gather feedback, and turn problems into solutions.
- **Avoid attrition and improve ROI:** Maximize each customer's lifetime value by keeping churn at bay and ensuring your customer acquisition budget is well spent.

Customer Segmentation

Use Altair AI tools to develop actionable insights into your different customer groups and use that knowledge to create relevant offers, tailor service interactions, and design impactful products.

Simply relying on demographic information like age, income, and geography to segment customers is insufficient since it doesn't account for different behavioral patterns or provide real understanding of customers' preferences and the problems they want to solve. Altair AI products enable you to dig past the obvious signs and find common traits between customers that create meaningful divisions. Using a combination of structured and unstructured data, you can understand your customer's needs, know which products and interactions are resonating with them, and tailor your approach accordingly.

- **Find deeper insights:** Understand what characteristics really matter when it comes to segmenting customers into meaningful groups.
- **Uncover commonalities:** Connect to and explore the wealth of customer information you already| have to find patterns you would have otherwise missed.
- **Discover new opportunities:** Understand the nuances between customer segments and identify opportunities to improve across each segment.
- **Tailor your approach:** Ensure all customer-facing teams meet the unique needs of each segment, and design products that help customers address their desires and most pressing challenges.

The software's powerful, intuitive drag-and-drop canvas gives users code-like control without complexity and bridges the gap between domain and data experts.

Deploy Altair AI data analytics software at the workgroup, operating division, or global enterprise level. Implement on any major cloud platform, on premises, or take a hybrid approach for the best of both worlds. Evaluate, compare, monitor, and manage machine learning models at scale.

Forecast Demand

If you can't accurately forecast demand, you run the risk of producing too much or too little. You could be wasting warehouse space, misallocating employee time, and/or unnecessarily increasing inventory. You can use historical sales data to identify patterns, but historical information alone can be misleading since it doesn't account for external factors like changing consumer preferences or new competitors.

Altair RapidMiner enables organizations to forecast demand with greater detail and accuracy that relying on seasonal trends. They can more accurately plan production, lower inventory costs, and optimize marketing spend.

Accurate demand forecasting models helps teams avoid underproducing, which can lead to disappointed customers and negative brand impacts, as well as overproducing, which wastes precious cash, increases inventory costs, and can cheapen the brand when it comes time to clear the shelves by discounting.

- **Get the full picture:** Build models that account for more than just historical trends to get a complete view of market demand, including changing preferences and new market entrants.
- **Optimize supply chains:** More comprehensive forecasts let you plan how much product you'll need to make, store, and market.
- **Boost profits:** Avoid producing, storing, and transporting too much or too little, and make sure you don't waste human or operational resources.

Fraud Detection

Fraud attempts are increasing every day as malicious actors find new, more nuanced ways of operating. With employees using personal devices more frequently, fraud levels are increasing. For example, employees working from home are often more vulnerable than they would be in an in-person work environment.

Traditional methods for detecting and preventing fraud are expensive and ineffective. It's impossible to sift through every transaction or interaction, and selecting random samples is still a time-intensive process that provides a sub-optimal solution. Without a sound mitigation plan, fraud eats away at profits. It can also have much wider effects too, hindering your ability to serve legitimate customers and damaging your operations.

Use Altair software to detect and prevent fraud — and ward off negative impacts to your bottom line before they occur. Build sophisticated machine learning models that automatically flag suspicious behavior and identify risk factors within your operations most susceptible to fraud.

- **Stop fraud:** Detect complex behavioral patterns early enough to identify fraud and act quickly.
- **Flag high-risk cases:** Isolate fraud cases in real-time by constantly monitoring large volumes of transactional data.
- **Protect profits and improve service:** Minimize fraud-induced losses, waste less time on random manual inspections, and provide better service to legitimate customers.

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> ...cloud-based and on-premise data science solution that allows my companies to easily access, load, and analyze structured as well as unstructured data. I appreciate its features that assist me a lot like process automation, model validation, data connection, blending, and many more. This application offers a visual drag-and-drop tool and a machine learning library that allows our developers to create and deploy predictive models easily and efficiently. I found it very useful because it enabled me to address my workflow without having to write code.
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> Senior Software Engineer
> Industry: IT Services

Altair AI products make it easy to distribute and consume the insights your AI models generate at scale. Add users, scale up, and embed models wherever they can deliver the greatest impact for your business—all without compromising your data's security or integrity.

Predictive Maintenance

Determine the lifetime of factory components and machines, predict when repairs will be needed, and schedule maintenance accordingly. Keep your business operating smoothly while reducing or even eliminating unplanned downtime.

By pairing intuitive machine learning tools with cloud-based or edge computing systems to analyze data from your shop floor, Altair AI data analytics products help you keep a close eye on your equipment's health.

In the past, preventative maintenance was based on either time or cycles of use. This helped prevent equipment failure, but it also meant stopping a well-functioning machine to conduct maintenance, even if there was no indication of anything wrong.

Predictive maintenance offers a better way to maintain your equipment without disrupting production. You'll have the confidence to keep machines running, knowing that you can catch and address issues that aren't easily detectable, avoiding costly failures and equipment downtime.

Predictive maintenance main benefits include:

- **Improve maintenance planning:** Optimize maintenance schedules with thoughtfully allocated resources and reduce mean time to repair.
- **Lower maintenance costs:** Don't waste money by performing maintenance when it isn't needed; only conduct repairs when there's an issue.
- **Avoid unplanned maintenance:** Minimize unplanned downtime and failures that put your business at risk.
- **Root-cause analyses:** Find causes of equipment malfunctions and work with suppliers to switch off reasons for high failure rates, increasing return on assets.

Risk Management

Organizations are constantly exposed to many forms of risk, from cyberattacks and financial threats to political and supply chain uncertainties to fraud. The better and faster you can identify and assess risk, and forecast its impact, the better you can manage and mitigate it.

With Altair, your risk experts, even those without any knowledge of programming, can build machine learning models that assess risk accurately, thereby enabling you to take preventative action and safeguard your business against potential threats and negative business impacts. Use Altair RapidMiner software to develop optimized solutions that protect your business against threats, no matter where they originate.

- **Accurately assess threats:** Forecast developments that affect your business and could weaken your position in the market, from price movement to economic developments to unreliable suppliers and beyond.
- **Protect profitability:** Take appropriate measures to protect your business against threats. Hedge or take other proactive action to ensure positive outcomes no matter what circumstances arise.
- **Improve risk-based pricing:** Make credit scoring and other pricing mechanisms more effective with an accurate understanding of associated risks.
- **Increase operational predictability:** Stop wasting service and retention efforts on customers that don't merit it. Focus on the most profitable customers to grow your business and accelerate success.

The software enables clients to develop and deploy sophisticated generative AI models quickly. Utilize any of the hundreds of thousands of large language models (LLMs) available on HuggingFace.com. It is a secure, cost-effective, and easy-to-use way to leverage generative AI's capabilities within your organization.

Prevent the erosion of trust and overcome a lack of process in AI and machine learning by collaborating in an auditable environment with explainable, understandable models and interactive apps.

Credit Scoring

Making good credit risk decisions quickly is critical for retail, banking, and B2B businesses. Sound lending decisions protect cash flow, ensure that money is providing solid returns, and increases profitability.
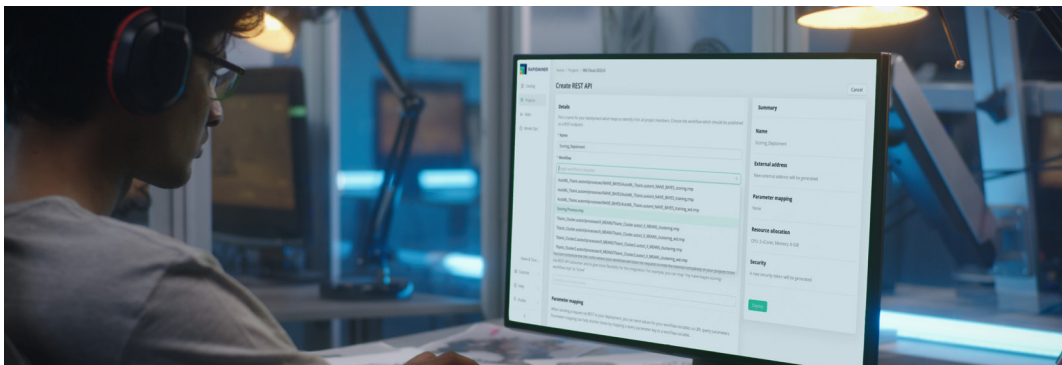
Lenders all over the world use Altair RapidMiner to build and test predictive models that make decisions about loan applicants' creditworthiness and help them optimize each stage of the customer credit lifecycle. They train models with historical data along with delinquency scores, payment ratings, demographic attributes, and current account activity provided by third parties. Lenders then are free to score new applications for risk-based products and based on the outcome, lenders will then determine whether a risk-based product should be granted or not.

- **Increase revenues:** Identify the best credit prospects quickly to help them begin consuming credit right away.
- **Optimize resource utilization:** Build models that predict cost of capital, opportunity costs, and other factors that determine how profitably your organization is using cash, personnel time, and brand equity.
- **Reduce collection costs and increase portfolio value:** Accurate credit scoring models reduce the number of bad loans and other credit decisions, resulting in lower collection costs and increases in portfolio values for loans.

Altair RapidMiner: A Comprehensive Range of Data Analytics Tools

Altair AI Studio, Altair AI Hub, and Altair AI Cloud software are part of the Altair RapidMiner platform. Access, cleanse, and format data from virtually any source (including PDFs, complex spreadsheets, databases, big data sources, and enterprise applications like Salesforce) and build automated data transformation and report distribution workflows. Our industry-leading visual approach to analytics modeling supports fast development, testing, and deployment of sophisticated AI applications, and enables organizations to incorporate code written in the SAS language, Python, R, and SQL into their models. Build, modify, and deploy sophisticated business intelligence, data visualization, and stream processing applications using a drag-and-drop interface.

To learn more, please visit altair.com/altair-rapidminer.

A programmer uses Altair AI machine learning software's code-friendly development environment to build a REST API for deploying machine learning models to the web.

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> A well-designed flexible product, plenty of pre-built models, generalized transformations, and evaluation processes. Easy to understand explanations and an extensive training library.
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> Enterprise Analytics Manager
> Industry: Energy and Utilities

△ **ALTAIR**   in f ⊙   #ONLYFORWARD