

# Machine learning for human resources

Accelerate HR's transformation from an operational function to a source of insight to drive strategy and success.

Many organizations are awakening to the vital impact that Strategic Human Resource Management (SHRM) can have, above and beyond HR's personnel traditional management role. Data-driven insights can accelerate this shift, enabling HR teams to set aside historical, instinct-based approaches to deciding who to hire, what to offer as benefits and compensation, and how to retain key employees. Machine learning can also help automate routine tasks, freeing HR staff to focus more on the strategic aspects of human capital investment and optimization.

## Machine learning benefits for human resources

### Streamlined processes with lower costs

Machine learning can be used to eliminate many manual processes, such as screening job applicants, answering routine employee questions, and providing guidance on training and coursework. This allows HR staff to be redeployed to higher value activities that require human interpretation and judgement—lowering overall costs as the same people accomplish more than ever before, and improving employee satisfaction, as staff is more engaged in interesting work.

### Greater hiring success

Finding and identifying the right people to hire becomes easier when machine learning pinpoints the traits most likely to predict success in a given role. This information improves the entire hiring process, from its speed and efficiency to the satisfaction of hiring managers presented with candidates they're excited about bringing onto their teams.

### Smarter investments in employee engagement

Different employees are engaged by different types of compensation, benefits, perks, recognition, training, and other motivators. Machine learning can identify exactly what will make the difference for an organization's own employees, ensuring money is spent on the most effective combination while keeping employees happy.

### The right people in the right jobs at the right time

The combined impact of data-driven recruitment, hiring, engagement, and retention is powerful, as having exactly the right people in place drives strong business results. Machine learning removes guesswork and puts this combination within reach.

**29%**

annual increases in corporate HR technology investment

**600**

hours per year per person can be saved using intelligent HR bots

**24%**

higher operating income for companies using predictive HR analytics

**59%**

of organizations feel AI is important to HR; only 31% feel ready

# How human resources can use machine learning

## Predictive recruitment and hiring

Identify the most important attributes and traits of successful employees. Use these traits to recruit high quality prospects and hire the right ones. Reduce reliance on interview questions, personality tests, managerial instinct, and other factors that may not actually be good predictors of employee success and impact.

## Compensation and benefit optimization

Predict what will truly motivate your people. Add flexibility beyond the traditional reward model of fixed structures and pay ranges. Create benefit and incentive structures, even at the level of individual employees, that will boost performance and retention while moderating cost. Analyze your compensation plans for indicators of systemic bias or other imbalances.

## Workforce forecasting

Determine an organization's hiring needs before they arise. Use all available data on employees to forecast gaps and shortages of critical skills. Predict demand for numbers and types of employees needed to support an organization's strategic direction. Factor in employee lifecycle impacts—such as churn and retirement—to avoid surprises.

## Data-driven employee retention

Foresee which employees are churn risks based on employee data in HR systems. Assess how hard to work to retain them, and how much to spend. Take preemptive action to boost morale before an employee gives notice and it's too late. Spot overall retention trends in the workforce and identify problems earlier than exit interviews.

### CASE STUDY

## Large regional school district reduces teacher churn by 50%

A large, regional school district was struggling to retain its best teachers. The district was losing hundreds of teachers each year, most of them taking jobs with competing school districts in the area. The district used RapidMiner to predict which teachers were most likely to quit, and also which teachers were the most effective and worth the most effort to retain. By proactively targeting at-risk teachers with custom incentives to stay in the system, the district reduced teacher churn by 50%. This not only improved the student experience by ensuring consistency and quality of teachers, but also reduced costs as fewer new teachers had to be hired and ramped-up in their job, which is always an expensive proposition.



[RapidMiner](#) is reinventing enterprise AI so that anyone has the power to positively shape the future. We're doing this by enabling data loving people of all skill levels across the enterprise to rapidly create and operate AI solutions for immediate business impact. We offer a full lifecycle platform that unifies data prep, machine learning, and model operations with a user experience that provides depth for data scientists and simplifies complex tasks for everyone else. The RapidMiner Center of Excellence methodology and the RapidMiner Academy ensures customers are successful, no matter their experience or resource levels. More than 40,000 organizations in over 150 countries rely on RapidMiner to increase revenue, cut costs, and reduce risk. Learn more at [rapidminer.com](https://rapidminer.com) or try RapidMiner today at [go.rapidminer.com](https://go.rapidminer.com)