

PerceptiLabs makes machine learning easier with Red Hat OpenShift



Start-up PerceptiLabs was looking to move its visual machine learning modeling tool to a container platform to enhance scalability and avoid vendor lock-in. Working closely with Red Hat, PerceptiLabs built an enterprise-ready version of its tool to run on Red Hat OpenShift. The partnership helps PerceptiLabs in its mission to get companies started with machine learning. This combination of technologies allows customers to focus on creating and understanding their machine learning models.

Partner resources

Red Hat® Independent Software Vendor (ISV) program

Red Hat technology partner program

Software

Red Hat OpenShift® Container Platform

Red Hat Enterprise Linux®



Technology

18 employees

Benefits

- Offered support and exposure to help the company grow
- Provided a cloud-agnostic solution that opens new markets and saves time and costs
- Delivered rapid scalability for training machine learning models

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Martin Isaksson
CEO, PerceptiLabs



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Helping companies get started with machine learning

Born from a desire to simplify machine learning modeling, PerceptiLabs is on a mission to help companies across all industries get started in this new field as machine learning will play a significant role in our future. It takes the growing volumes of data available today, helps companies find patterns in that data, and makes predictions based on those patterns. There are a wide variety of use cases in every industry; for example, using object detection to determine which shelves are running low in a supermarket, or using image recognition to identify a face in a crowded stadium.

PerceptiLabs' visual modeling tool allows users to quickly build machine learning models for any industry. It allows the user to easily drag and drop objects and connect components, then set parameters before the tool automatically generates their code. Users can rapidly train and tune their machine learning model and even see how it performs.

From starting development in a garage in Sweden, the company now has a team of 18 data scientists and developers. Headquartered in San Francisco, its team members span the globe with locations in Sweden, the United States, Canada, and Singapore. And PerceptiLabs' community of users is also global, representing data scientists and developers in more than 50 countries. “Our community helps us understand how users want to use and run our tools,” said Martin Isaksson, CEO of PerceptiLabs. “They told us they need an enterprise solution that is scalable, cloud-agnostic, and also able to run on-premise.”

Taking the complexity out of machine learning

Red Hat connects with researchers at leading universities to stay at the forefront of technology. Dr. William Cockayne, who leads the highly regarded Foresight & Innovation course at Stanford University, first saw how Red Hat and PerceptiLabs would complement each other. He then introduced the two companies. “We saw how quickly the combined technologies from PerceptiLabs and Red Hat would help companies get started with machine learning,” said Isaksson. “Red Hat OpenShift makes Kubernetes easy to use. PerceptiLabs makes machine learning models easy to build. Together we make two very complex things easy!”

When customers take their first steps into machine learning, they typically run the community version of PerceptiLabs locally. To move to production, they need to run the enterprise version of PerceptiLabs in the cloud, or on-premise on their servers. “Workloads are much higher in a production environment,” said Isaksson. “You have a much bigger dataset, and you need more computational power. OpenShift provides the big, powerful, and complex infrastructure you need to run machine learning models efficiently.”

PerceptiLabs joined both the Red Hat ISV program and Red Hat technology partner program in 2018.

Powering machine learning together

PerceptiLabs built a containerized version of its tool to run on OpenShift within a few short weeks. The solution relies on two Red Hat technologies:

- Red Hat OpenShift provides a highly scalable container platform for the PerceptiLabs visual modeling tool.
- Red Hat Enterprise Linux provides an ideal foundation for scaling the OpenShift container environment.

While the initial build was rapid, the visual modeling tool was not yet ready for enterprise-level release. Red Hat stepped in to help, providing development support on a daily basis for more than six months. “For us, as a small start-up, Red Hat’s help in getting our tool enterprise-ready has meant everything,” said Isaksson. “You cannot get this type of support from the open source community if you are using pure Kubernetes.” The enterprise version of PerceptiLabs is now live and running in a containerized environment on OpenShift.

Maturing with a supportive partner

Endorsing an enterprise-ready solution

The partnership with Red Hat has helped PerceptiLab gain visibility, not only with potential customers but also with potential partners. Business increased for the young company after Red Hat’s CTO invited them to speak during Red Hat Summit, Red Hat’s annual conference. “We got so much exposure there,” said Isaksson. “It felt like we were exposed to the world for the first time; it made such an immense difference. You only have to look at the metrics for our website to see how much interest it generated.”

Red Hat is one of PerceptiLabs’ primary channels to market. “Red Hat is a great way for a small company to meet large enterprises,” said Isaksson. “If you are a start-up of 18 people, you need some proof that you are reliable. By endorsing our tool as enterprise-ready in the Red Hat marketplace, Red Hat has given us access to a large potential customer base and a lot of opportunities.”

The Red Hat partner ecosystem has also opened up new partnerships for PerceptiLabs. It is looking to partner with two other companies to provide a solution covering the entire machine learning workflow. PerceptiLabs helps with building and managing the machine learning models, while the other partners take care of data management and serving management. The end-to-end MLOps (DevOps for machine learning) solution is not only an extremely powerful offering, it also runs extremely smoothly since all components run on OpenShift.

Preventing vendor lock-in opens new markets

Adopting Red Hat technologies has opened up new markets for PerceptiLabs since there is no vendor lock-in. OpenShift is cloud-agnostic, making PerceptiLabs’ enterprise-level tool cloud-agnostic too. This is a stark contrast to the early days when the modeling tool ran in a virtual machine environment and customers were locked into specific vendors, which narrowed PerceptiLabs’ target market.

With some companies biased to certain vendors when they run systems in the cloud and others not wanting to run in the cloud at all because it’s a security issue for them, OpenShift allows PerceptiLabs to serve them all. “Our enterprise solution runs in containers on OpenShift,” said Isaksson. “We can now simply deliver a package to our customers, and they can choose how they run it: on Amazon Web Services, Microsoft Azure, or Google Cloud Platform, for instance. They can also run it on-premise.”

Having a cloud-agnostic solution also saves PerceptiLabs time and cost; the company doesn’t need to build different solutions for each and every cloud vendor.

Scaling to meet machine learning’s immense demands

Scalability is crucial for machine learning modeling. Users need huge amounts of computational power when they’re training their models and often need to rapidly ramp those computational resources, which is exactly what OpenShift allows them to do. “Previously, with our virtual machine environment, it wasn’t easy to spin up new instances; the environment didn’t scale well,” said Isaksson. “OpenShift takes care of spinning up computational resources. Scaling is very quick and very easy.”

In fact, OpenShift takes care of managing the whole underlying infrastructure. It's also easier to deploy and run than costly and resource-intensive alternatives such as virtual machines. "Compared to setting up and managing everything from scratch with pure Kubernetes, OpenShift makes life a lot easier and saves a lot of time," said Isaksson. With OpenShift providing an enterprise version of Kubernetes, PerceptiLabs' developers and data scientists can spend their time focusing on advancing the visual modeling tool.

Helping customers build their future together

The machine learning market is relatively new, and in turn, PerceptiLabs' ability to succeed in its mission depends on understanding and delivering what its users and community require. Thus, the company releases new features on a regular basis. "We listen to the feedback from our community and adapt our tool to make it more intuitive for the users," said Isaksson. "OpenShift support for the agile DevOps way of working is vital."

Machine learning as a service, or MLaaS, is a new feature that customers have been asking for. It provides business model flexibility, and the cloud-agnostic nature of OpenShift made it easy for PerceptiLabs to deliver this capability. "OpenShift has made it very easy for us to host our solution for our customers," said Isaksson. "With OpenShift, we don't need a specific solution for each and every cloud vendor. It has saved a lot of development time."

If companies are to adopt machine learning, the process of building models needs to be streamlined. "By providing a very easy way for companies to adopt machine learning, PerceptiLabs and Red Hat are creating a new market together," said Isaksson. "Our partnership is incredibly valuable. It creates a unique opportunity for our joint customers so they can focus on just creating and understanding their machine learning models. Together we make two very complex things easy."

About PerceptiLabs

PerceptiLabs provides visual machine learning modeling tools to help companies get started with machine learning. It not only offers a faster way to build machine learning models but also a visual way to understand what the model was doing and to share that insight with others. Its headquarters are in San Francisco and its team of 18 spans the globe.

About Red Hat

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.



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