



Sales Company Builds AI-Powered Intelligence Using FloydHub's Deep Learning Platform

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Bryan Pirtle

CTO, NOVA

COMPANY BACKGROUND

Nova is a Y-Combinator and Salesforce-Ventures backed B2B sales platform. Nova's Content Intelligence Engine enhances email content to engage customers and prospects alike. Clients like CloudFare, Gusto, and ZipRecruiter use Nova to send dynamically personalized-at-scale drip campaigns, save templates for re-use, and track opens, clicks, and replies – with sentiment and intent – all within the same product.

CHALLENGE

According to Michael Kuo, Software Engineer at Nova, one of the things they do is help users determine which of their company's email responses are positive and lead to meeting requests, something that adds both efficiency and effectiveness to any sales

"This is helpful for our users to focus on their important email threads," says Kuo, "and to analyze what messaging works best for their sales emails."

Nova decided to use deep-learning techniques to determine the quality of these sales emails. They wanted to build a model that would automatically identify the nature of the responses, and categorize them as positive or negative.

The problem was that they had to choose between running simple experiments on their laptop that didn't scale well, or using Azure VMs that scaled just fine, but the set-up was really slow. Either way, they were dealing with the inefficiencies and ineffectiveness that they so deftly eliminate when it comes to their own customers email marketing efforts.

COMPANY



KEY STATS

1mi+

Total emails sent every month

250+

Companies using Nova

12

Email categories predicted by the ML model

85%

Accuracy of the intent prediction model

THE SOLUTION

The solution, according to CTO, Bryan Pirtle, was simple: Find a resource that would allow Nova to speed-up model development and scale-up training simultaneously. “FloydHub allows us to experiment quickly by running a very large volume of experiments and instantly deploying our best performing models,” says Pirtle. “Floydhub has also allowed us to optimize the different levers – e.g. model design, input features – for our ML models by running hundreds of experiments over a few days.”

According to Pirtle, FloydHub is great for running many simultaneous experiments. And their visualized metrics are fantastic for optimizing model accuracy and training speed in a simple-to-use interface.

“Floydhub has saved us weeks of engineering time that would’ve been spent on DevOps,” says Pirtle.

THE RESULTS

Being able to speed-up the set-up time for experiments without sacrificing the ability to scale-up is important when you’re conducting as many experiments as Nova.

“You must realize that for any individual problem,” says Pirtle, “we run hundreds of experiments to determine the best model. The flexibility to write our own code and then upload datasets to iterate quickly sped up our ability to get production-ready models by 10x.”

With FloydHub’s cloud environment, the team at Nova is now able to scale their training to 200 models a week, along with identifying the best performing sentiment prediction model.

Kuo adds that being able to view the output metrics of the training is huge. “Also, seeing the hardware metrics like CPU, RAM, and GPU RAM per epoch during training are very valuable to find out how to push the hardware to its limit,” says Kuo. “It allows us to eke out more experiments in less time, and that’s something that has been very instrumental for us.”

According to Kuo, it’s all about Nova’s end user, though, and how they benefit from FloydHub’s deep learning platform. “Our users love being able to see intelligence that no other product on the market can offer.”

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Michael Kuo
Software Engineer

ABOUT FLOYDHUB

FloydHub is a cloud-based, machine-learning platform focussed on simplicity and scalability. FloydHub provides all the popular machine-learning and deep-learning environments backed by powerful machines to train your AI models. Teams can experiment on a range of ideas and collect the results for easy review. The best models can be converted to an API, and used in production. More than 100 companies use FloydHub to build their machine-learning models and deploy them in their AI stack.

FloydHub was founded in 2016, and funded by YCombinator, Data Collective, and Charles River Ventures, and is located in San Francisco.

www.floydhub.com

