Toyota Insurance Management Solutions uses Algorithmia to improve automotive safety

MS&AD’s Advanced Technology Group (ATG), Toyota’s insurance group, uses data modeling, big data, and AI risk models to transform vehicle telematics and improve transportation safety.

ATG is an innovation hub experimenting with computer vision and machine learning for rapid prototyping of new tools, data sources, hardware, and software.

The challenge
ATG spent its first year laying the groundwork for its machine learning infrastructure before focusing on getting proofs of concept up and running. It often relied on time-consuming manual methods to train, build, and deploy models.

“One of the first motivating factors of leveraging Algorithmia was its very innovative and tech-forward stance on leveraging serverless—it’s what hooked us.”

Wanda Wang | Innovation Manager and Senior Data Scientist, Toyota Insurance Management Solutions USA – Aioi Insurance Services USA
However, the team still needed a way to simplify and automate workloads, track model lifecycles, scale up, and quickly de-orphan models to make them available to other teams. It also wanted to build and strengthen relationships with other data science teams within Toyota and MS&AD in order to demo tools, models, and capabilities.

The solution
ATG built a sophisticated and tool-agnostic machine learning program using Algorithmia as its deployment platform. ATG increased its models in production by 75 percent, and can now showcase its product portfolio and build more robust relationships across its global teams.

“
It’s definitely worth it to have a white-glove DevOps service on-call whenever we need it versus having to develop entire DevOps and software engineering resources on site or fund a whole new team.”

Wanda Wang | Toyota / MS&AD

MS&AD, through Algorithmia, avoided vendor lock-in and large infrastructure changes, such as switching cloud providers or frameworks. ATG’s data, development, and deployment pipeline was streamlined, giving the team back valuable time.

Algorithmia also helped ATG build best practices for future application development and become more efficient with searchable model versioning, so every time a team member gives a demo, the platform offers a simple way to customize for specific use cases. Algorithmia’s built-in serverless scaling function also future-proofs the ML suite so ATG can easily use the tools it needs when it needs them.

The future
In 2020, ATG will debut tools it has been working on since its inception. The team will add more data science roles to ramp up model creation, and Algorithmia will ensure the team’s machine learning lifecycles are sound.

ATG’s next focus is on optimizing training and hardware. Algorithmia will ensure seamless scale and easily translatable functionality so ATG can continue to develop cutting-edge computer vision technology for MS&AD and the automotive industry.

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