

Contextual Labeling for TV and Video-on-Demand Advertising



Hear from Everard Rodney, a data scientist at Corus Entertainment Inc., about how the [Advanced Solutions Lab](#) helped the company grow the skills they needed to tackle their data science challenges.

As a prominent player in the media and entertainment industry, Corus Entertainment has access to large amounts of data across multiple mediums. However, harnessing this data to produce insights and provide custom results for our advertisers is a challenge.

In today's world of choice, Corus is making targeted investments to provide audiences more flexibility when it comes to how, when, and where they watch our premium content and engage with our brands. Understanding our audience in order to acquire inventory of interest to increase viewership and audience retention is of paramount importance and remains one of Corus' strategic pillars. This means audience segmentation has been crucial for building a viewership knowledge base. We accomplish this by partitioning our data and audience behavior based on seasonality and demographics down to the episodic level.

Taking part in the [Advanced Solutions Lab \(ASL\)](#) gave the data science team at Corus the fundamental skills needed to tackle the challenges that we faced while building a data science practice within the organization. The course was instrumental in helping the team familiarize themselves with the Google Cloud environment. Our team learned with the help of detailed labs in Google machine learning workflows, recommendation engines, and the implementation of deep neural networks.

We also learned about the data pre-processing and feature engineering needed to ensure proper model development. The curriculum also included a discussion of fairness in AI which is both relevant and current as we continue to define our data governance strategy within the company.

Supplementary materials like Tech Talks and guest speakers in the program were especially valuable as they introduced the team to additional concepts such as contextual bandits, image segmentation and how to introduce Kubeflow pipelines to scale and productize our model offerings.

During the capstone, we had the opportunity to work on a contextual labeling project which is intended to provide advertisers the ability to reach their target market by associating advertisements to Corus video assets. Using Google's Video Intelligence API in combination with a multi-class deep neural network, context was surfaced to help advertisers target "contextual moments" and build campaigns that resonate with audiences resulting in higher ad recall, and hopefully a lift in sales. The model pipeline was built using TensorFlow. With the assistance of the instructors, the team incorporated batch optimization, hyper-parameter tuning, model training, and model serving on the Google AI platform.

Prior to partnering with Google, research had shown high ad recall when focused on related context. However, our challenge was the time and effort needed to manually find moments and build targeted campaigns. With the implementation of the contextual labeling model, the time and effort needed is significantly lower. As we begin scaling and productizing this solution at Corus, we believe this will enable us to build campaigns faster. This would give us the ability to use more video inventory and shorten the build process, and potentially allow for the inclusion of live content as well as Video On-Demand (VOD) assets.

At the present time, the predictability of the model remains high, both in accuracy and recall. As we move to integrate with other product offerings, we continue to see contextual labeling as both a viable and important piece of our overall data product portfolio.

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