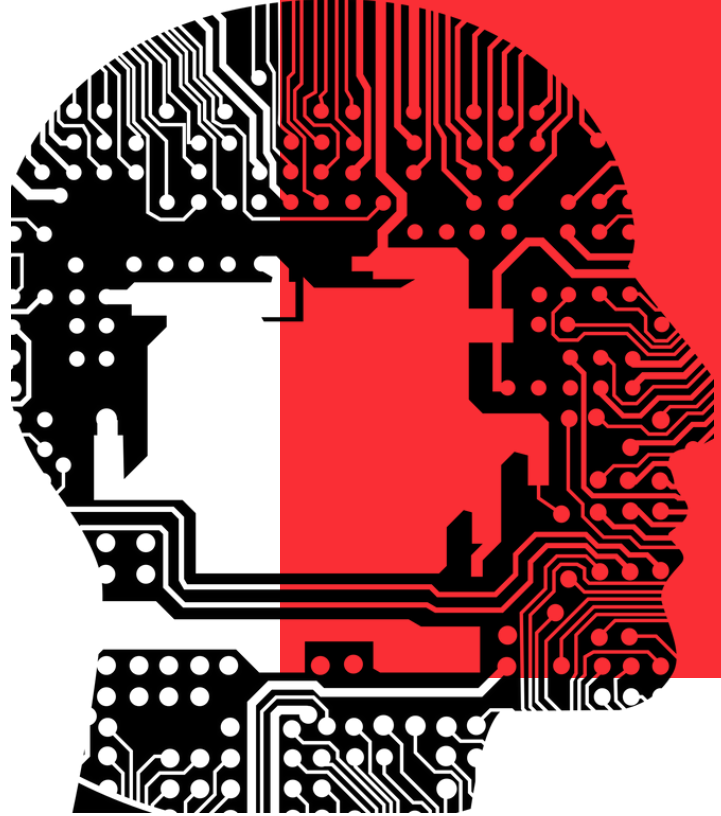




AUDIENCE SEGMENTATION & LOOKALIKE CREATION WITH CONFIDENCE



Better audience targeting tools by layering segmentation and predictive clustering on top of raw device-level fields

AT A GLANCE

Challenges

- Separating 'signals' from 'noise' in a high-dimensional data operating as a SSP (supply-side platform)
- Enriching these signals so they can be used for high-value activities such as interest-based or demography-based targeting

Benefits

- An added layer of audience targeting that are higher-level abstractions of raw device-level, providing better value to advertisers
- Non-linear decision boundaries that classify device into distinct groups with an **accuracy of 99.57%** on out-of-sample tests

CHALLENGES

Opera's video ad platform, AdColony, provides advertisers a cost-effective distribution channel to reach audience with their message. While there are 256 raw device-level fields associated with each impressions served, none of them are demographic data. The advertiser however, would greatly benefit from being able to infer basic demographic profiles (gender, age groups) from these device-level fields and historical activity.

SOLUTIONS

- Given 10 million raw data, containing no demographic information, Supertype's data scientists trained a machine learning model that could infer properties signalling a device user's demographic attributes (e.g genders) at **an accuracy of 99.57%** in a binary classification, based on validated ground truths
- Supertype's model prototyping process also aims to provide explainability, using multiple approaches to dimensionality reduction such that a 3-dimension visualization can be had on how to arrive at complex, non-linear decision boundaries within the raw data

Key Benefits

More desirable to advertisers

Ability to direct a campaign's messaging towards a key a demographic segment is a top priority of many advertisers' campaign objective

Improve bottom line with lookalike audiences

Opera's AdColony team can increase revenue opportunities by offering groups of audience that are behaviorally- and characteristically- similar to an advertiser post the initial campaign, modeled from the custom-trained machine learning algorithms

