



Your Ultimate Guide to  
**Mobile Programmatic  
User Acquisition**

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## Introduction

The number of mobile apps is growing exponentially, exceeding 11 million as of May 2020. With this fierce competition, it now takes more than just a great product to get users to choose your app.

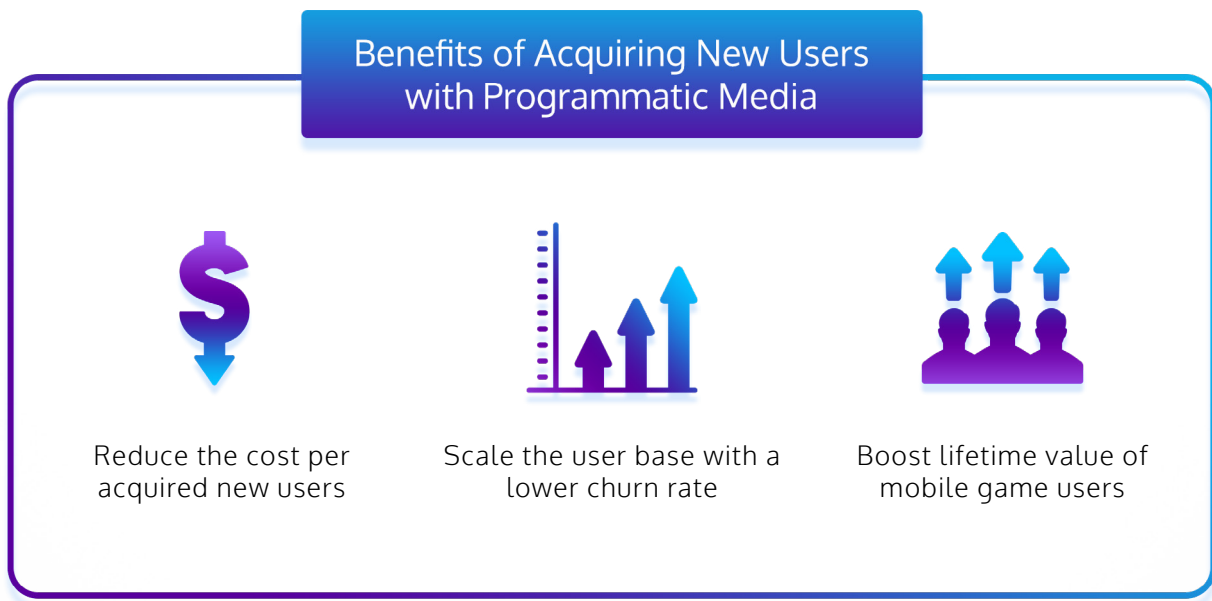
A proper user acquisition (UA) strategy is the proven way to attract high lifetime value users and ensure your app reaches its full potential.

This white paper aims to provide an understanding of how to successfully leverage programmatic media for your next user acquisition campaign.

# Programmatic User Acquisition

Programmatic advertising is one of the ways in which mobile ad inventory is traded. Unlike traditional advertising, where the ad space is transacted manually between the publisher and the advertiser, programmatic advertising allows traffic to be sold on a per impression basis via a real-time exchange.

Mobile programmatic inventory allows you to find high lifetime value (LTV) users while they are playing or consuming content within other apps. If you are not yet utilizing mobile programmatic buying, you could be missing out on a large audience of potentially valuable users.

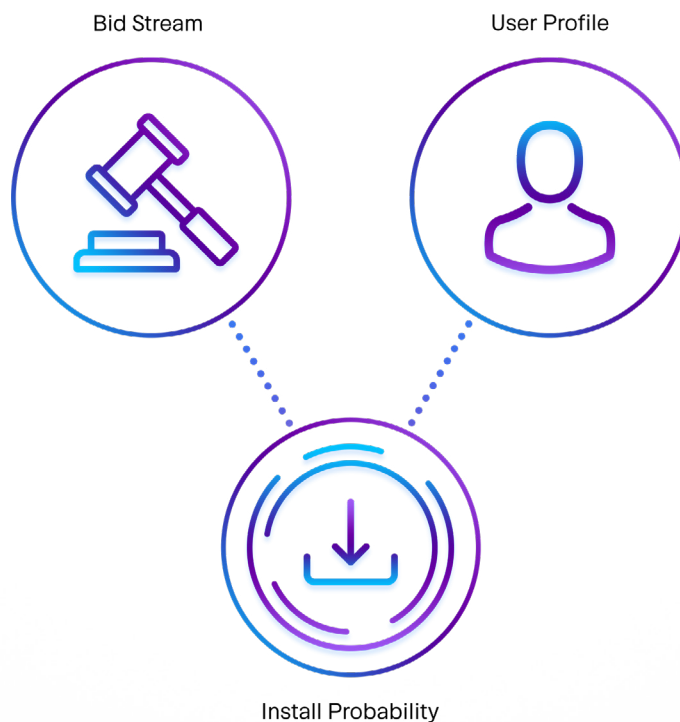


# Machine Learning Models for User Acquisition

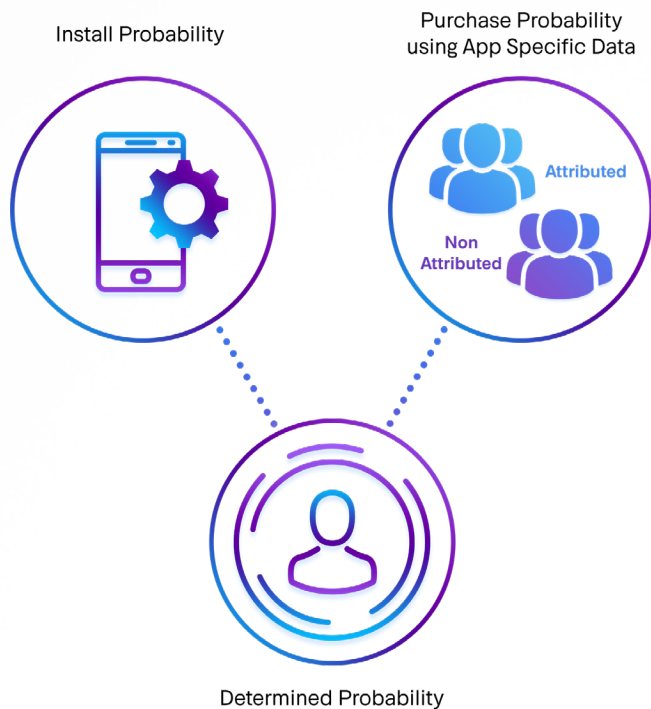
Sophisticated machine learning models are the key to success for your UA campaign. We at Aarki have developed various machine learning models to effectively learn user behavior that delivers scale at an optimal cost and return. Our three fundamental models are the Install Optimization, the Multiplicative, and the Pointwise Mutual Information Model.

## Install Optimization Model

Install Optimization is one of the steps of Aarki's setup for UA campaigns. It uses a model focused on delivering a reasonable cost per install (CPI) whilst generating volume. We then monitor installs to see how they convert to the desired post-install event, which is used to measure campaign performance. The goal is to predict the install probability using a generalized linear machine learning algorithm combined with features derived from the auction, geographic and temporal context. In addition, user profile data is incorporated with historic ad responses and in-app behavior.





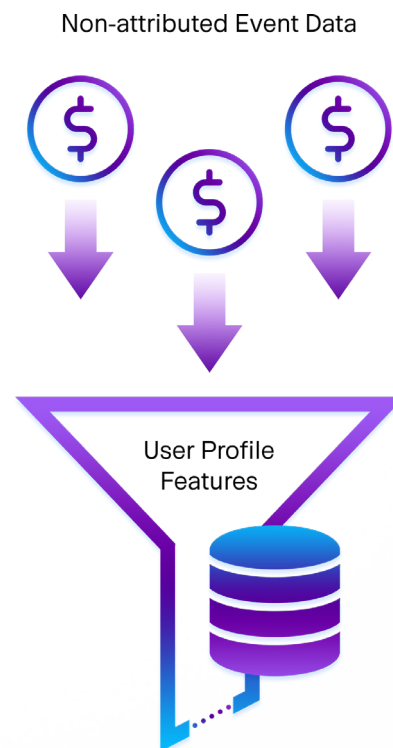


## Multiplicative Model

The Multiplicative Model gives us the opportunity to directly use predictions from a model trained on non-attributed event data (e.g. organic installs and other paid media data). Advertiser's non-attributed event data is used to model the post-install conversion funnel while Aarki-attributed data is used to model the impression-to-install funnel. These predictions are multiplied at bid time, forecasting user in-app spend and ad revenue.

## Pointwise Mutual Information (PMI) Model

The Pointwise Mutual Information Model allows us to effectively model Aarki--specific user conversion funnels whilst pre-training on non-attributed event data. The advertiser's non-attributed event data is used to compute pairwise correlations between user profile features and in-app purchase events. These correlations are then used to "warm up" features in a direct optimization model, which predicts purchase probability at the time of the ad impression.



# Creative Strategies

Machine learning technologies alone cannot achieve significant results. A critical factor in driving engagement is the quality of the creative. Below are the best performing creative strategies from the numerous UA campaigns we have run.

## Localization

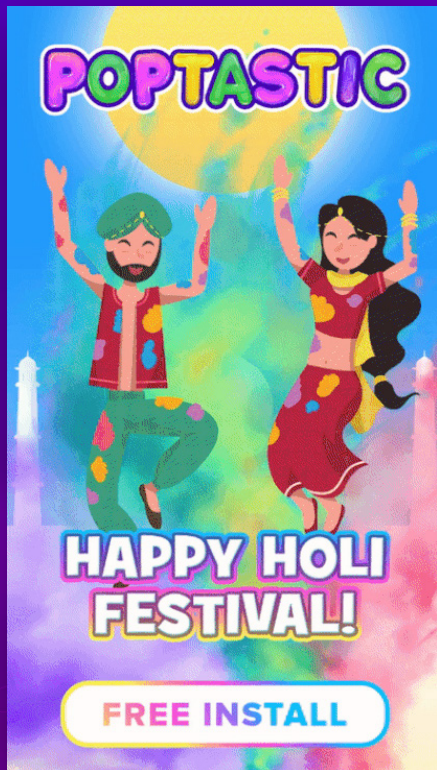
When trying to reach global markets, the first thing you want is your target audience to understand you. The solution? Localization! Speaking the same language as your target market makes it easy for your audience to understand and recall your ad message.

At Aarki, our team of professional translators can translate ad copy into **26 language variants** for countries including Japan, Taiwan, China, Korea, Mexico, Argentina, Colombia, Peru, Costa Rica, Germany, and many more. However, it's not only the translation that matters. Different cultures have different tastes. A creative that appeals to a North American audience may not appeal to an Asian or a European audience. True ad localization considers cultural preferences as well as language.

Once we have the localized creative variants prepared, we dynamically serve the appropriate ad to the targeted regional audience.

Our data shows that localization really works. In a recent campaign where we ran both localized and non-localized creative ads, the return on investment (ROI) was three times more when a localized ad was initiated, and, the click-through rate (CTR) of a localized ad was 20% greater than a non-localized ad.





## Event-based Creative

Once you have established the various languages to target, you want to make your creative relevant to each specific audience. A great method is to incorporate real-world events into your ads. For example, Cherry Blossom season, Ramadan, or Guy Fawkes Day.

### 1. Integrate the event theme into your specific app style

Striking the right balance between showing something new whilst remaining recognizable is key to delivering memorable ads. Using Valentine's Day colors like red and pink is an example of a way to integrate the event theme with the style of the app. In the case of Holi Festival, a splash of colors gets the message across.

### 2. Make it festive

Take part in the celebrations and make your ads fun. For example, during Thanksgiving, you can feature a turkey and other food popular during the season.

### 3. Tell a story

Using real-world events to tell a story is a great way to boost engagement with your target audience. After all, connections are made through stories shared. Having relatable stories can increase the chance that your target audience will engage with the app.



## Seasonal Creative

Another creative strategy that can help you broaden your app's appeal is to leverage seasonal trends in your creative. Tailor your marketing campaigns to the changing seasons so that the user will notice the relevance.

Here are some creative practices that have proven successful:

### 1. Change the background, use the right colors

Tweak the background and borders of your creative to match the season. Choose flowery borders for spring, red leaves for autumn, palm trees for summer, snow for winter, etc. The color palette should also be carefully selected. Using greens and yellows for spring, and yellows and blues for summer will make the ad creative align with the users' moods.

### 2. Make the characters relevant

Using characters and recognizable figures in an app could be the key to attracting and acquiring new users, as well as reactivating lapsed users. Present your characters in seasonal attire to grab the users' attention.

### Bonus: More creative tips for your next user acquisition campaign!

- Display the mobile app interface
- Present a detailed how-to of your app
- Promote specific features that make your app exciting
- Display cute characters or mascots



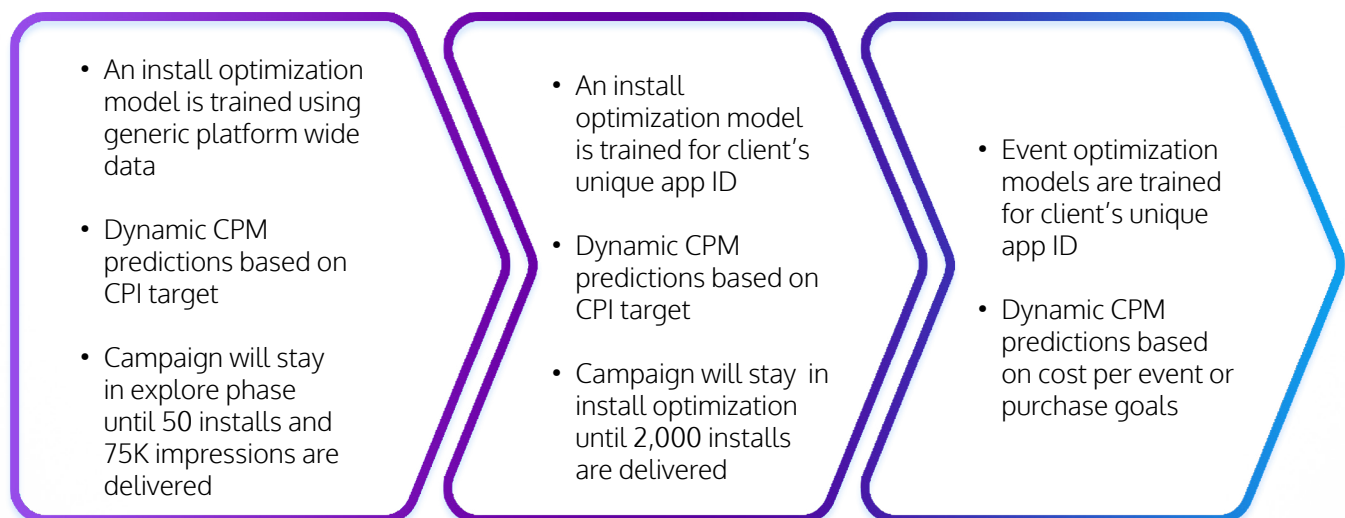
# The Aarki Way: Getting Started with Aarki's User Acquisition Strategy

We at Aarki can help you grow the high lifetime value user base of your app. Our tried and tested process is fundamental to our success.

Our campaign startup process has three phases: **Explore**, where we collect a number of installs and impressions that are then fed into our algorithm. This phase is critical for the success of your campaign because it helps our models to develop a better understanding of the app's users' behavior and preferences, and to make more accurate predictions.

Next is the **Install Optimization phase**, where our robust machine learning algorithm models predict the probability of a user to install the app and optimizes towards a stable cost per install.

The last phase is the **Event Optimization phase**, where custom models are developed from the data gathered previously to deliver against your campaign key performance indicators (KPIs) such as return on investment (ROI).

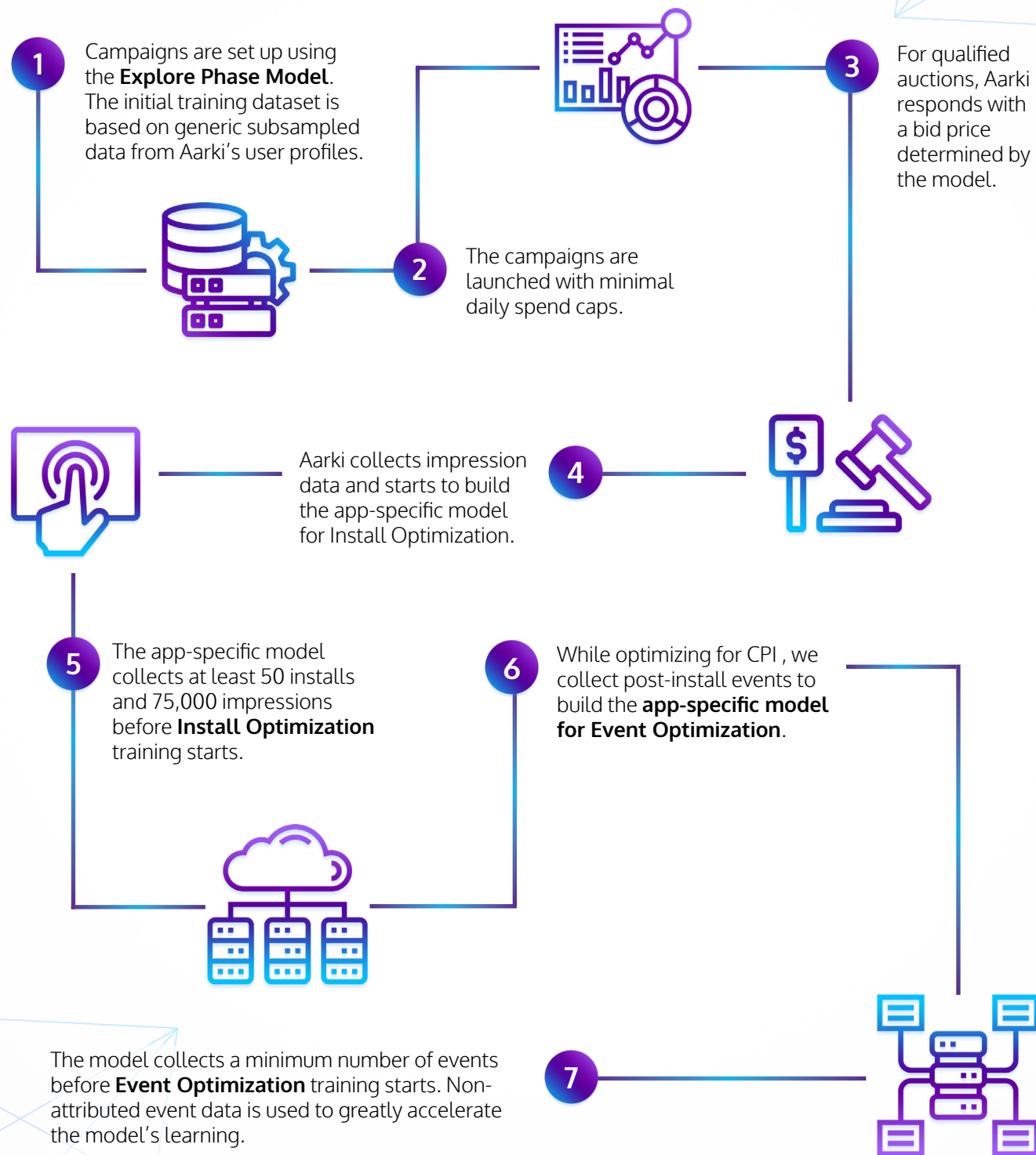


High lifetime value users are targeted via our robust machine learning algorithm so you can be sure that your ad dollars are maximized in the best way possible. Algorithm models utilize attributed data (which are users acquired through Aarki ad impressions), and your non-attributed data (users acquired organically and via your other media sources).

Non-attributed events assist attributed data with identifying substantial features, such as user behaviors, that can strengthen the algorithm's prediction to acquire highly engaged users.

# Aarki User Acquisition process

The ad exchange is what allows these two sides of the coin (SSPs and DSPs) to connect with each other. It is a neutral, autonomous platform that enables the entire buying and selling process via real-time auctions.







## Why Aarki?

### 1. Unmatched Scale

- 5 global data centers with 1.5M+ queries per second
- Integrations with all major ad exchanges, and all ad formats are supported
- Acquiring 70K+ users daily for our largest customers

### 2. Guaranteed Performance

- 10.5B+ device IDs with user profiles are used as key features in ML models
- Drive down-funnel KPIs for events like registration, sale, and purchase
- Recognized in the industry as a leading mobile performance DSP

### 3. Creative Automation

- Dynamic creative for advanced personalization
- Creative localization for 26 languages

### 4. Deep repository of creative learnings

- Large in-house agency capable of producing strategic and data-driven creative ads

Making your mobile app popular shouldn't be a challenge. Let Aarki help you create an acquisition campaign that will catapult you to the top of the charts!



# Case Study

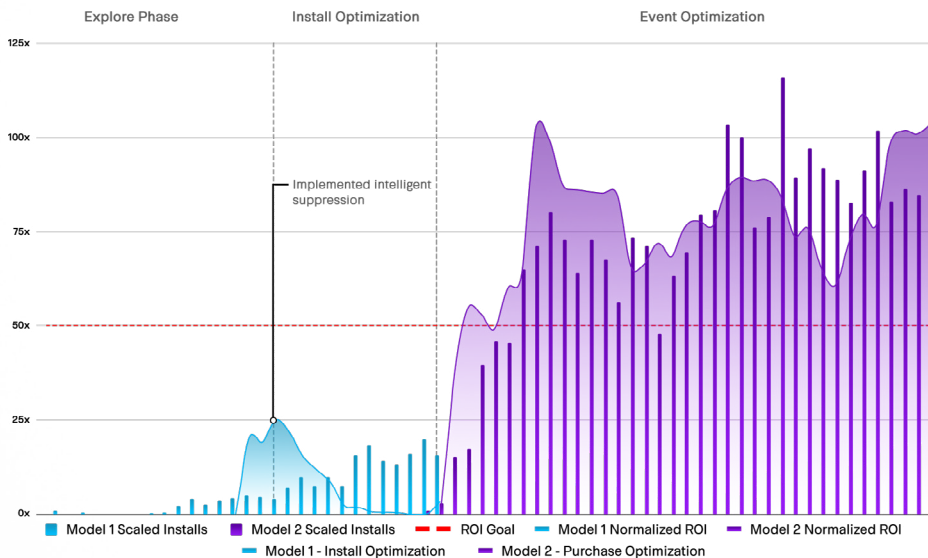


## The Challenge

Kabam chose Aarki for a user acquisition campaign to broaden the user base of their newest role-playing game (RPG) simulation app, Shop Titans. The campaign objective was to deliver a broad audience reach and attract highly engaged users that would generate a strong return on investment (ROI) at a low cost per install (CPI). The campaign also aimed to deliver global scale through Aarki's large data repository and machine learning capabilities.

## The Solution

Within two weeks, Aarki built and launched the Multiplicative model trained on Kabam's first party data, and leveraged intelligent suppression lists to reach high LTV users for the app. We delivered on all client expectations - CPI, ROI, and scale.



- ROI is consistently above target in Event Optimization phase
- Increased install volume by **569.23%** in Event Optimization phase

*The unique combination of Aarki's machine learning capabilities and creative optimization expertise allowed us to scale up our campaigns while improving our return on ad spend, month after month.*

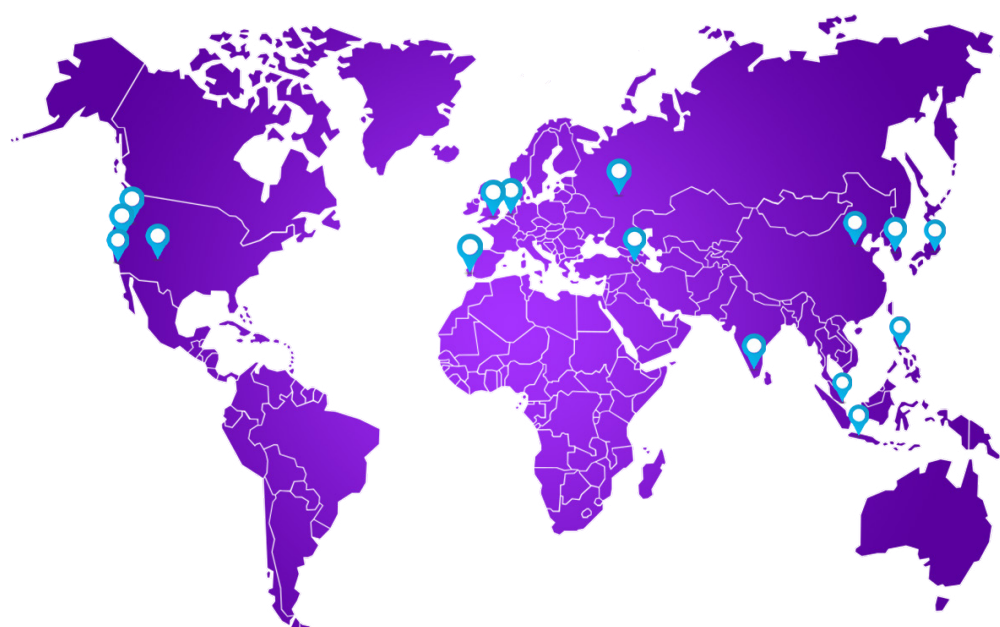
*We are pleased to be working with a highly results-driven and collaborative team whose hands-on approach puts the success of our partnership first.*



**Terry Koh**  
Growth Marketing Manager

# About Aarki

Aarki helps companies grow and re-engage their mobile users, using machine learning (AI), big data, and engaging creative. We strive to deliver performance at scale across various marketing objectives to meet the target ROI (return on investment). Our data offers deep insights into user intent and usage habits. To drive performance, we activate our data assets through proprietary machine learning algorithms and engage users in real-time with personalized creative.



Aarki has been recognized by The American Business Awards, Red Herring 100, Internet Advertising Competition, Deloitte's Technology Fast 500, The Drum Advertising Awards US, Horizon Interactive Awards, Effective Mobile Marketing Awards, The Wires by Exchange Wire, and Artificial Intelligence Excellence Awards.

For more information, please visit [www.aarki.com](http://www.aarki.com) or follow us on Twitter: @aarkimobile.

