

Forecasting Google's Consumer Hardware Demand Using Vertex AI

Evan Pardo

Business Data Science, Google

Demand forecasting can be particularly challenging in the consumer electronics industry. Short product lifecycles limit the availability of historical data and rapid product innovation creates a volatile competitive landscape. Such conditions can lead to unpredictable swings in promotional spending, marketing strategies, and other major drivers of demand. At the same time, this is a product space characterized by large required investments in manufacturing and inventory. As a result, demand planning teams risk developing high-touch processes in order to control for significant potential costs associated with even minor forecast errors. Such processes can buckle as organizations scale.

In Google's Devices and Services Product Area (DSPA), we are leveraging Vertex AI to improve accuracy and automation for our planning teams while respecting the need for process flexibility at-scale. To accomplish this, we have created a suite of capabilities targeting three key process steps: baseline forecasting, counterfactual analysis of promo performance, and user-driven simulation of upcoming promo strategies.

This talk covers how we used Vertex to deliver these capabilities, and the results we are achieving for the business.