

TEAM: Do-Little

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presents

INSiGHT

The word "INSiGHT" is rendered in a bold, black, sans-serif font. The lowercase 'i' is stylized with a yellow dot and a yellow line that forms a jagged, upward-pointing shape. Below the text, a horizontal bar spans the width of the word, with a color gradient from purple on the left to yellow on the right. The yellow line from the 'i' extends down to meet this bar.

Salient Features

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- Real-time data visualization and anomaly detection
- Server-Client API for data-polling
- Prophet model allows for:
 - Variable seasonality
 - Changing growth rates
 - Special periodic events
 - Automatic changepoint detection

About INSIGHT

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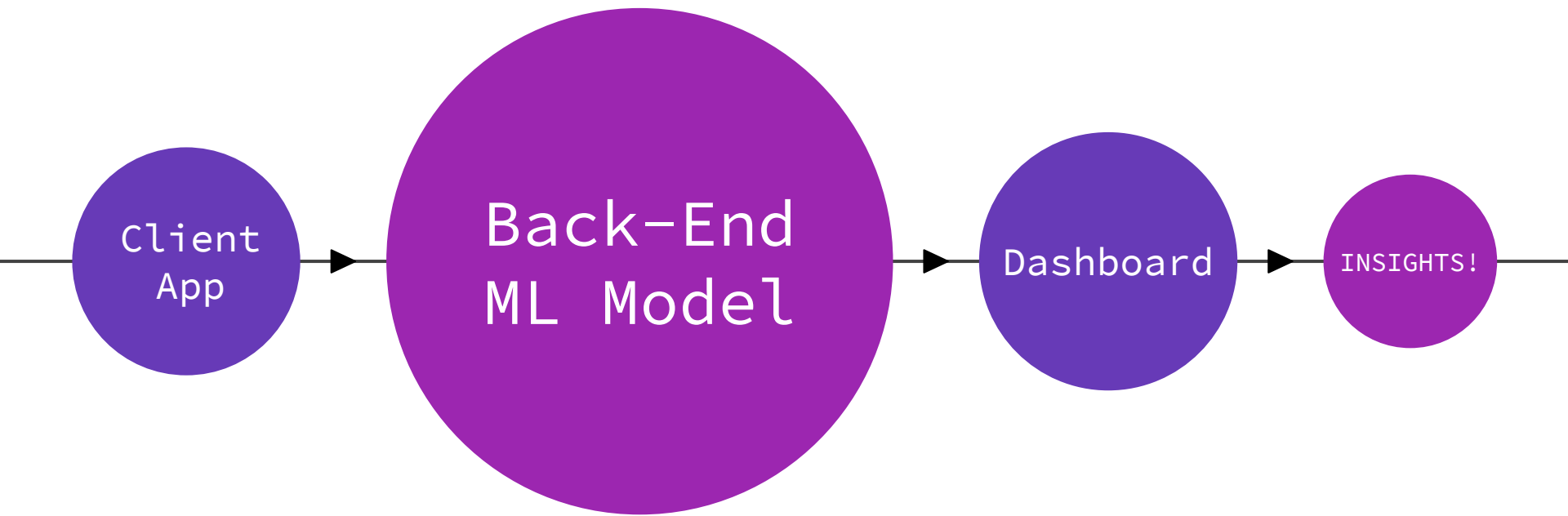
Insight is an app-telemetry monitoring software which aims at providing relevant information to the developers and marketing team about an app.

The stats from the app can be used by developers to continuously update their product while giving relevant information on user stats.

Insight predicts app telemetry given past history of the same, and uses these predictions to keep the app developers notified of changes in usage events.

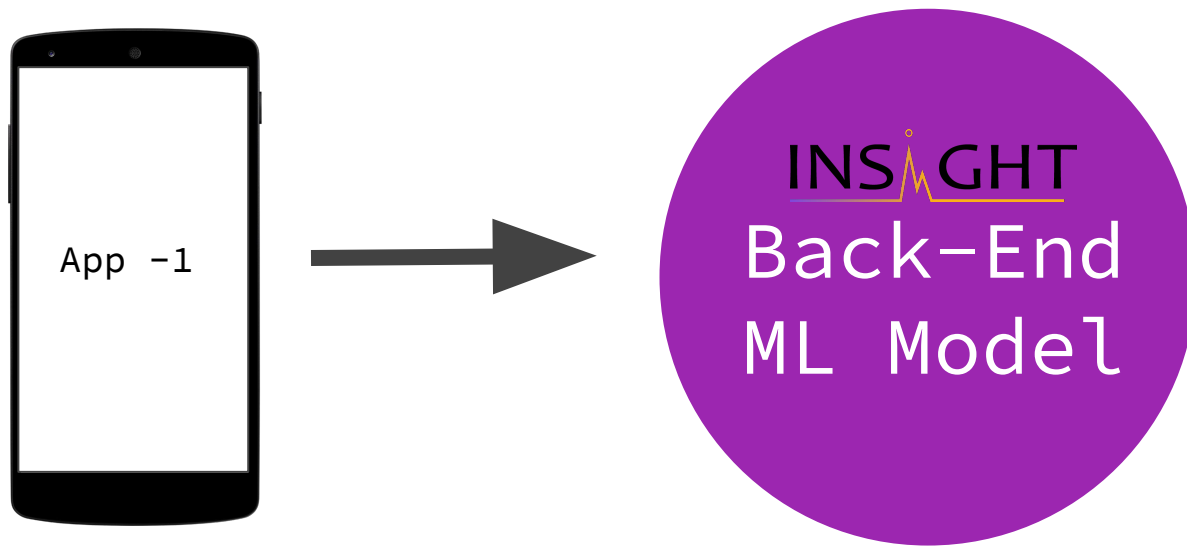
Information Flow

Information Flowchart - Brief



1. Information Flowchart

The data from app is sent to the model as a time series



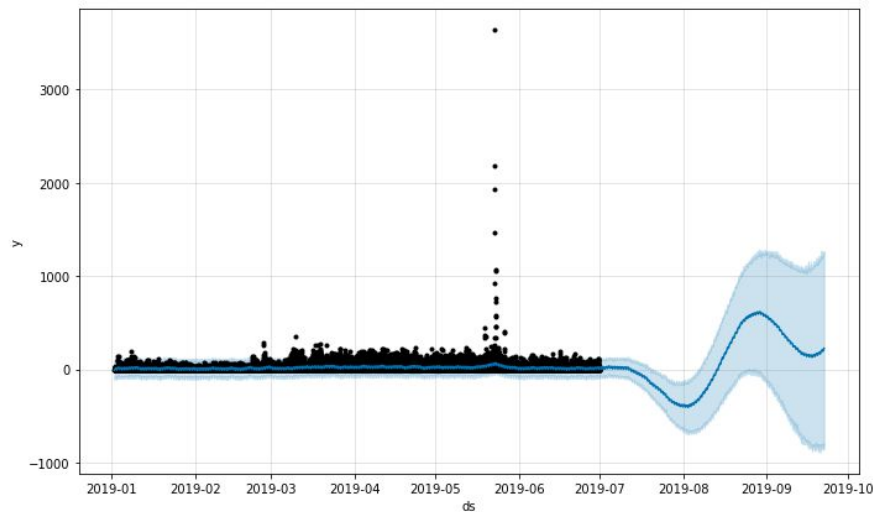
2. Information Flowchart

The model trains for trends in the data, taking into consideration the following properties:

- Yearly trends
- Monthly seasonality
- Daily patterns
- Effects of special periodic events (eg. holidays)

3. Information Flowchart

Based on the trends captured in training, the model predicts the future trends along with a confidence margin on the prediction



4. Information Flowchart - Real time detection

The prediction is compared against the real time data on the dashboard which gives insights to changing trends and reports anomalies for values outside confidence brackets



About the model

About the model

The back-end for the INSIGHT is based on the open source project, **Prophet by Facebook**.

Model Input :

- Time Series Data for any parameter

Model Output :

- Growth change with a margin of confidence to determine anomalies

About the model - changepoint detection

1. Specify a large number of potential changepoints at which the rate is allowed to change.
2. Apply sparse to rate changes using L1 regularization.
3. Choose from the potential changepoints for the real changepoint with inflow of real-time data

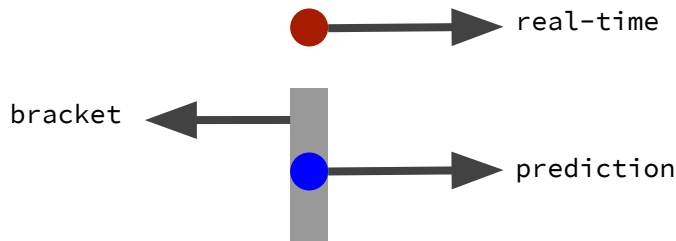
Anomaly Detection

Anomaly Detection

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The model gives us predictions along with a margin of error around the predictions.

Real-time data points which lie outside this confidence-margin can be considered anomalous, while those that lie within the margin of error are acceptable.



Notifications

Dashboard Notifications

We have in-dashboard notifications, where real time data lying outside confidence margin is added to an anomaly log.

Slackbot Notifications

This can be extended to a slackbot which sets an RSS on the anomaly logs and reports the same on slack.

Dashboard

Insight Dashboard

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The dashboard acts as the clients' front-end, where we can **visually compare** our predicted trends with the actual observations being polled from the server in **real-time**.

This can help **provide the clients with useful insights**.





Live Tracking



Revisits

Installations

Engagement

Resources



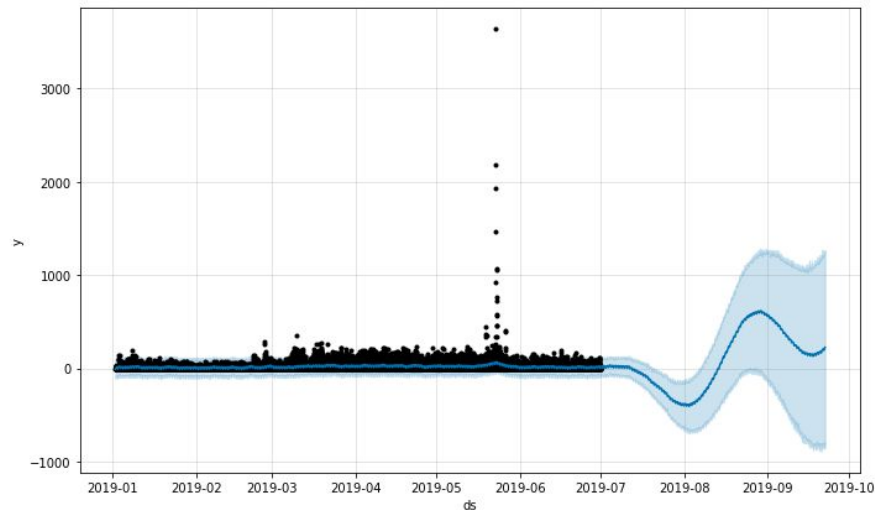
Report Logs



Anomaly Logs



app-1



This hour



5 % increase in engagement time



5 % decrease in new user engagement time



stable user numbers

[View more](#)

Prototype

Prototype

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Find working prototype at :

<https://github.com/fireballpoint1/Insight>

Instructions to run
included in README.md