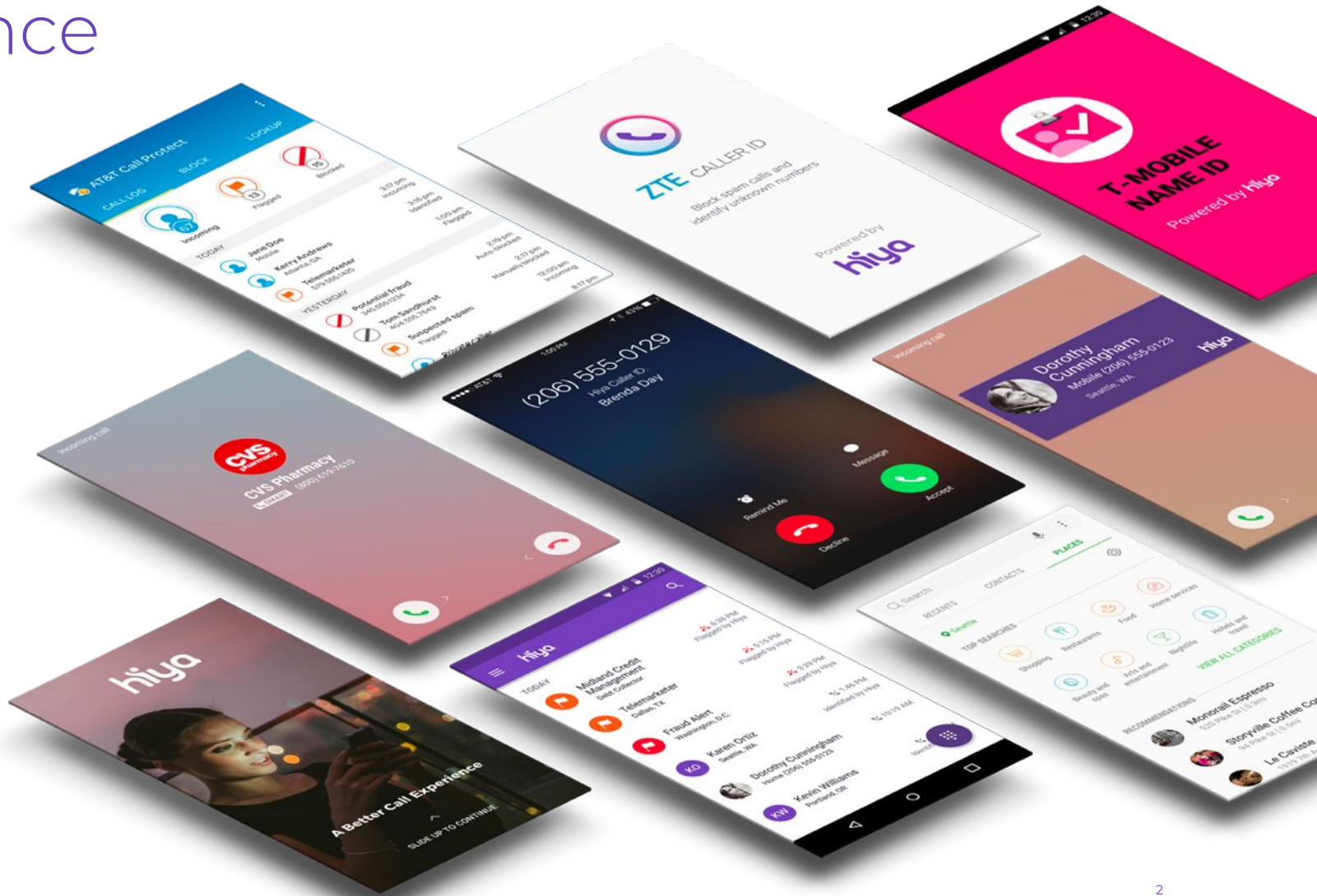# hiya

A Better
Phone Experience

DECEMBER 5, 2018

Hiya is revolutionizing the phone experience

The phone in the "smartphone" has remained largely unchanged over the past decade.

Hiya is fixing that by innovating together with its Device, Carrier and Call Originating partners.

50M
Monthly Active Users

In **196** Countries

8+
Applications and partnerships

Global Partnerships

T··Mobile·
OCT 2014

Began shipping T-Mobile Name ID, a premium version of Hiya Client

SAMSUNG
MAY 2016

Enhanced Samsung's phone experience with native integration of Hiya's caller profiles

AT&T
DEC 2016

Powering AT&T "Call Protect" which is a fully network-based spam protection using Hiya Cloud

ZTE中兴
FEB 2017

Global distribution of natively integrated, full-featured Hiya Client

Supplier Award

2018

"**Hiya** is one of seven AT&T 2018 Supplier Award recipients, out of 5,000 total vendors, which aligned themselves with AT&T's priorities and exceeded our expectations in helping us meet our goals."

Susan Johnson, Executive Vice President
Global Connections Management and Supply Chain,
AT&T Services Inc
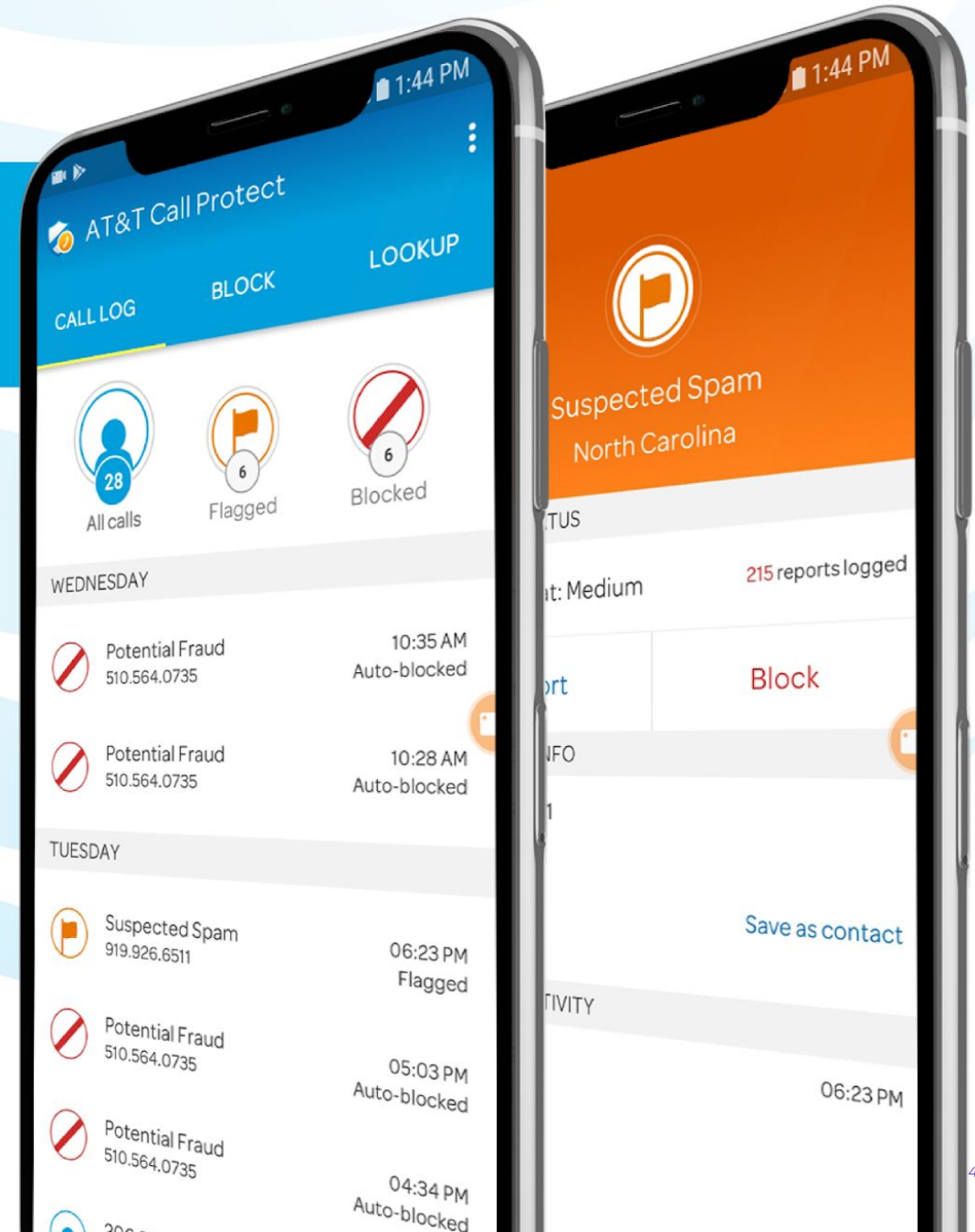
Enhanced Caller ID and Spam Protection

Bringing Trust & Confidence Back to the Voice Calling Experience

How it works
Hiya's Reputation + Identity System

01 BEHAVIORAL ANALYSIS OF CALLS →

02 THIRD-PARTY & COMPLAINT DATA →

03 MACHINE TRAINED MODELS →

04 REAL-TIME EVENT INFORMATION →

IDENTITY

hiya

→ PHONE PROFILE

✓ Spam / fraud protection

✓ Call purpose

✓ Business, identity data

✓ Extended info

Behavioral Analysis of Traffic

2018-11-07T19:15:20.545Z   Incoming   from 1/7825484928   non-contact   12s
2018-11-07T19:15:27.496Z   Incoming   from 1/5729487237   non-contact   23s
2018-11-07T19:15:30.973Z   Incoming   from 1/2318718553   non-contact   80s
2018-11-07T19:15:34.449Z   Incoming   from 1/5367221022   contact   30s
2018-11-07T19:15:37.926Z   Outgoing   from 1/5957661419   non-contact   55s
2018-11-07T19:15:41.403Z   Outgoing   from 1/8338050500   non-contact   35s
2018-11-07T19:15:44.879Z   Incoming   from 1/4475069590   contact   53s
2018-11-07T19:15:48.356Z   Incoming   from 1/3162444330   contact   49s
2018-11-07T19:15:51.833Z   Incoming   from 1/5816355949   non-contact   12s
2018-11-07T19:15:55.309Z   Outgoing   from 1/2090321227   non-contact   82s
2018-11-07T19:15:58.786Z   Incoming   from 1/9547185213   non-contact   30s
2018-11-07T19:16:02.263Z   Incoming   from 1/2952766428   non-contact   93s
2018-11-07T19:16:05.739Z   Incoming   from 1/4888375771   contact   84s
2018-11-07T19:16:09.216Z   Incoming   from 1/8873896766   non-contact   70s
2018-11-07T19:16:12.691Z   Outgoing   from 1/3798782842   non-contact   49s
2018-11-07T19:16:16.168Z   Incoming   from 1/3719390961   contact   54s
2018-11-07T19:16:19.645Z   Incoming   from 1/3329116092   non-contact   46s
2018-11-07T19:16:23.122Z   Outgoing   from 1/7264363068   non-contact   68s
2018-11-07T19:16:26.599Z   Incoming   from 1/6408742550   non-contact   12s
2018-11-07T19:16:30.076Z   Incoming   from 1/4699092462   contact   83s
2018-11-07T19:16:33.551Z   Outgoing   from 1/6690203545   non-contact   65s
2018-11-07T19:16:37.028Z   Incoming   from 1/4322170048   contact   10s
2018-11-07T19:16:40.505Z   Incoming   from 1/4859957914   non-contact   62s
2018-11-07T19:16:43.982Z   Outgoing   from 1/8105568621   contact   92s
2018-11-07T19:16:47.459Z   Incoming   from 1/4630705001   non-contact   88s
2018-11-07T19:16:50.936Z   Incoming   from 1/6843901543   non-contact   31s
2018-11-07T19:16:54.411Z   Incoming   from 1/8710401323   non-contact   51s
2018-11-07T19:16:57.888Z   Incoming   from 1/5489067083   contact   83s
2018-11-07T19:17:01.367Z   Outgoing   from 1/7353176505   non-contact   24s
2018-11-07T19:17:04.844Z   Incoming   from 1/2187563438   non-contact   32s
2018-11-07T19:17:08.321Z   from 1/5282140011   contact   85s

20 million
hourly events

sanitized, anonymized, and compressed into...

45 daily realtime
aggregations

persisted for model consideration for...

90 days of past
aggregations

leveraged by age and rate of change across...

130 million
phone numbers daily

Third-party & Complaint Data

40 million reports annually

Detection and categorization

Intelligent language analytics

Know the scammer's intent
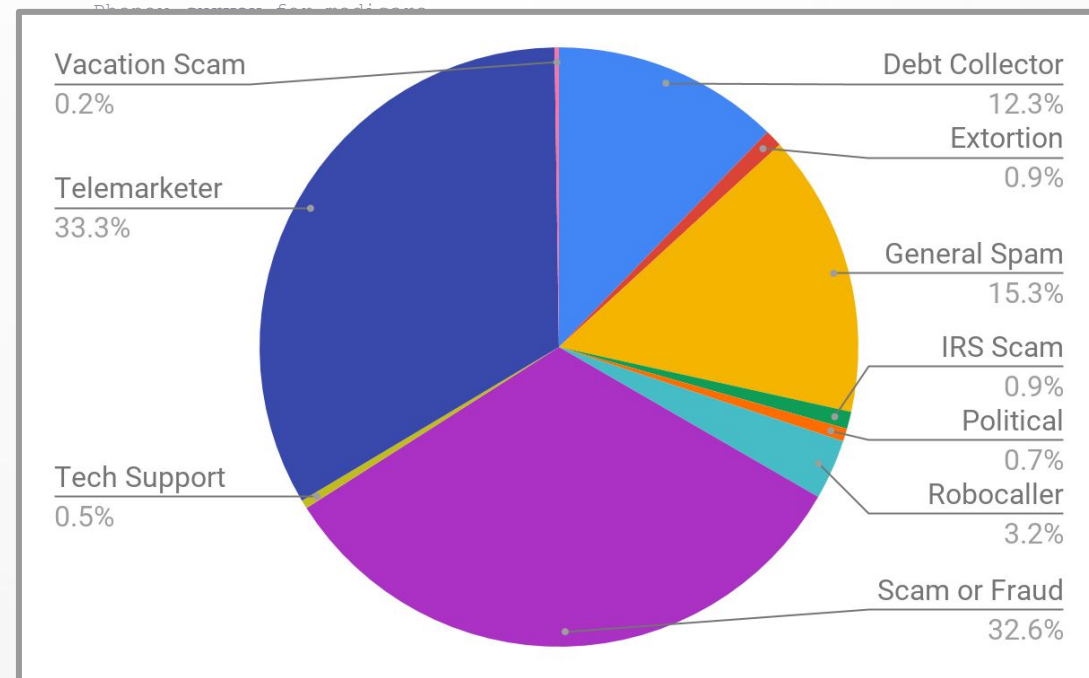
85% of calls have known intent

FC Federal
Communications
Commission

+

leaves robotic voicemail **threatening** international **lawsuit**.

Gonna **lower my interest rates** on my cards to 0%

Now I should expect me and my family to be **arrested** for fraud.

They state an **arrest warrant** released and to call back to resolve. Automated voice.

Phones scammer for medicare.

Extorsionadores

Called back within 3 minutes and it said phone was **disconnected.**

Looking for **donations**

Claims to be Citibank- wants to collect on late card payment- asks for **SSN**

A person had all of my personal information including **social security number**

Hilton hotels **survey** for a **free trip**.

Reputation Models

overrides
5.2%

us_npiv1-b
1.9%

us_niv3-b
7.0%

us_niv2-b
1.9%

us_niv1-b
0.6%

us_ig3v1-f
0.0%

us_ig2v1-f
3.6%

us_ig1v1-f
0.3%

us_giv3-b
2.7%

us_giv2-b
20.5%

us_giv1-b
6.3%

us_tfiv1-b
0.3%

other
24.9%

frs
0.2%

default
16.9%

nf_itde
0.8%

mincode
1.4%

scode
3.1%

spam_us_invalid
1.7%
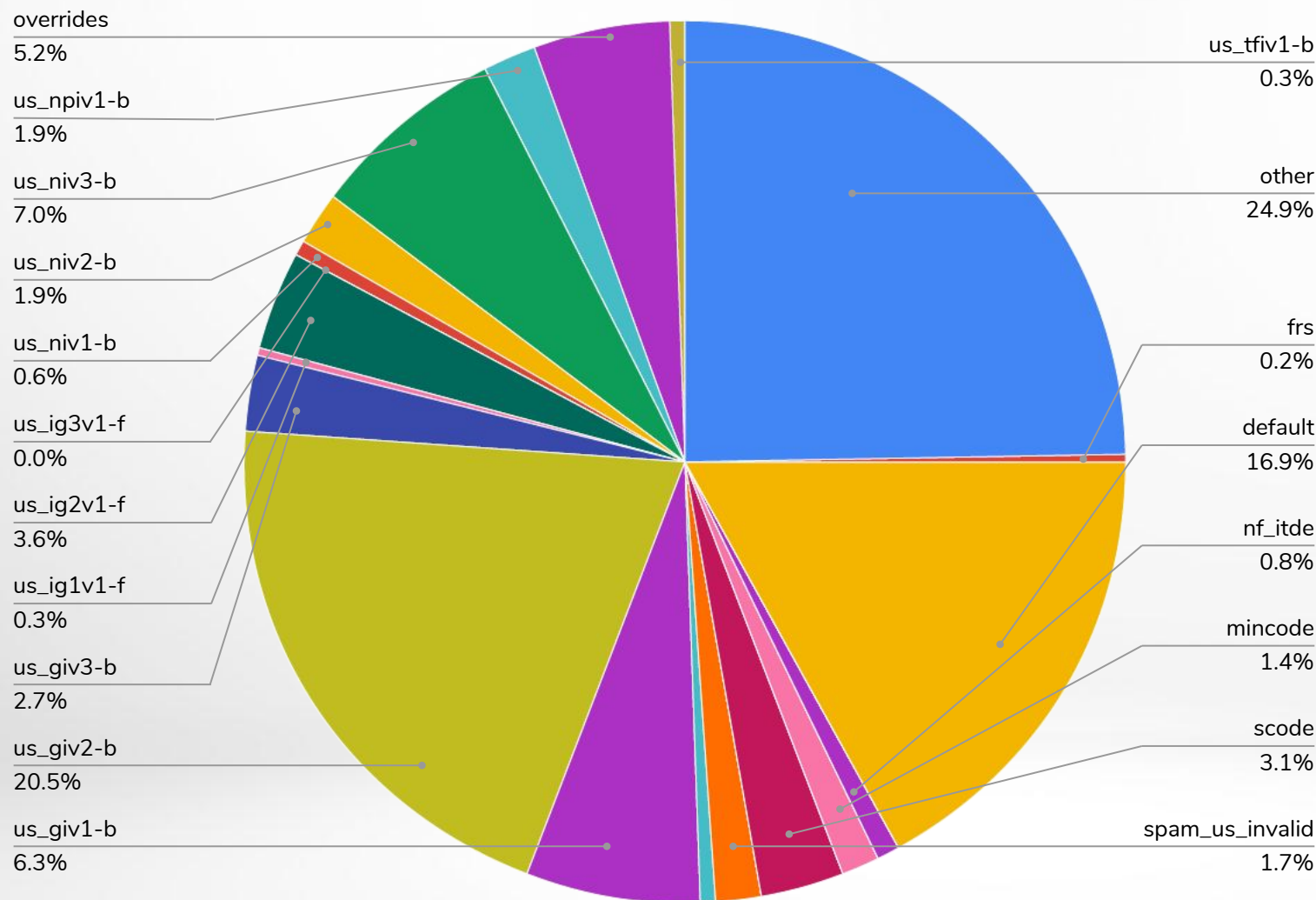
Models leverage traffic and reports intelligence

Each model targets specific segment

Under constant development

Recalculated typically within seconds

Real-time Event Response

Detect on the **call**, not the **number**

Network signals steer real-time decisions

Origin, destination	SIP header signals	Recent behavior	Current time of day	STIR/SHAKEN

Select model(s) appropriate for circumstance

- Incoming US call, neighbor, toll-free, spoof risk, international, off-hour…

Network integration strengthens spoof detection

NEIGHBOR SPOOFING

"Neighbor calls account for 10% of all unknown caller traffic. How do you isolate the good from bad?"

- Neighbor number call
- Recent history of similar calls
- Network signals indicate spoof risk
- STIR/SHAKEN verstat disappeared
- No prior relationship with recipient

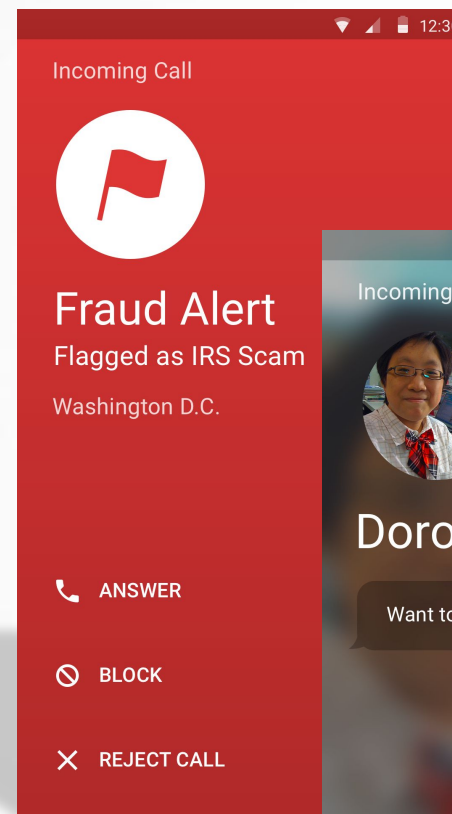Neighbor calls are largest segment of unwanted traffic in the market today.

Caller Profiles

Unifies real-time reputation with identity for maximum transparency

Hiya intelligence covers 1.5 billion phone numbers

Provide the best-possible value to the user receiving that call

P95 is under 20ms
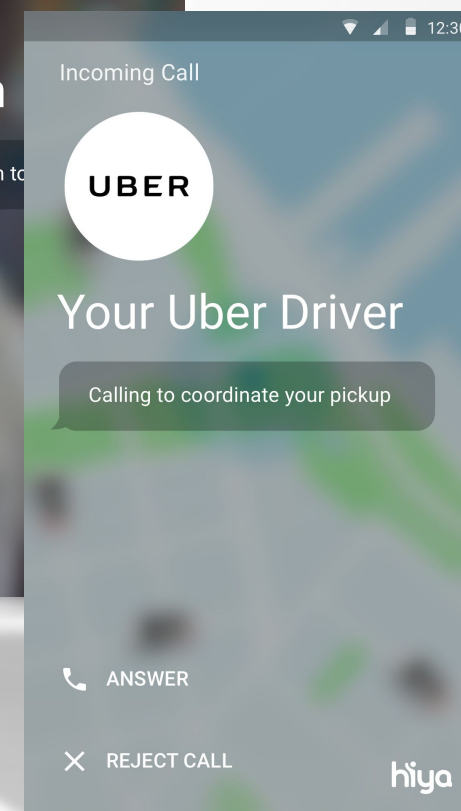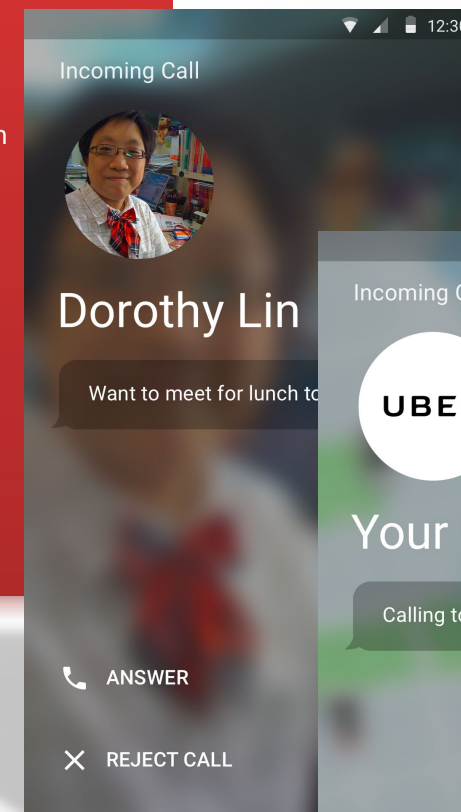
Coverage is Half the Story

Mis-classification carries more damage than a missed detection.

Legal Action:
High volume callers may take legal action against wrongful classification and low call pickup rates.
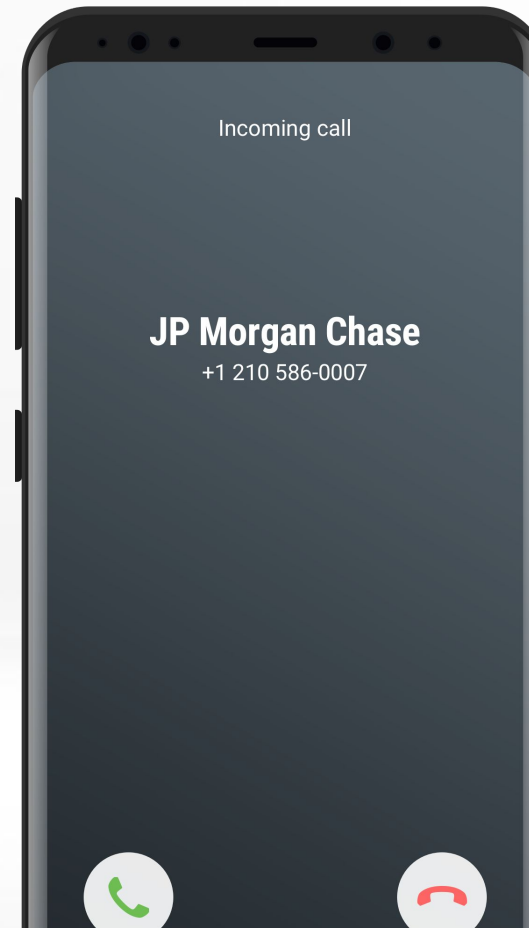
Consumer Frustration:
Customers will experience personal disruption from genuinely important missed phone calls.

Loss of Service Trust:
Consumers may rally against analytics services if cure is worse than the disease.

Hiya has industry-leading accuracy in detection, and is soon launching Business Clear to further protect the legitimate caller industry.

Analytics Service A

Incoming call

JP Morgan Chase
+1 210 586-0007

Analytics Service B

Incoming call

Scam Likely
+1 210 586-0007
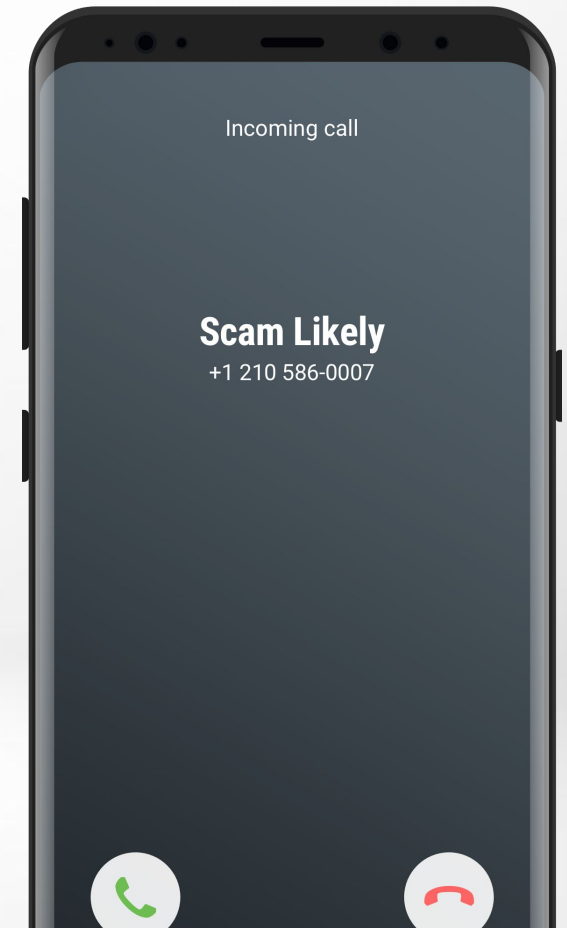
Hiya Takes Privacy Seriously

- We do not require access to users' contacts (if contacts are shared, they <u>never</u> leave the phone).

- We do not sell any personal data.

- Individual traffic events are deleted within 48 hours; only anonymous aggregations remain

- Full support for PII hashing where appropriate

- GDPR compliant

THANK YOU!

hiya