

# Machine Learning Applications in Fintech



## Talk Description

**Artificial intelligence, machine learning, and big data** applications have become **part** of our **everyday life**. From the smart alarm that wakes you up during your lightest sleep phase ensuring you start the day not sleepy and not late to the smart news channel on your smart phone that makes sure you know those news important to you every single night before you go to bed. These applications, **unlike human, do not get tired with repetitive tasks** on daily basis, on the contrary they **become smarter and smarter the more we use them**.

These intelligent applications also **have their presence on financial technology**. From **helping you** detecting fraud to helping your customers with the FAQ. From **reducing the amount of time** you need to make important decisions to freeing up your hands from laborious tasks so that you **could work on things that matter**. Here, we are going to share some common problems, and also opportunities, in financial technology that **leverage the power of data and intelligence**.

# Bank

**Credit Scoring**

**Fraud Detection**

**Customer  
Support**

**Customer  
Segmentation**

**Debt Collection**

**Customer  
Retention**

**Search Engine**

# Customer

**AI Assistant/Bots**

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# Credit Scoring

# Typical Problem

## Before machine learning

### 1. Credit requirements

Bank usually required many years of tax returns that young people, venture, or startup couldn't provide to get a small loan

### 2. Decision time

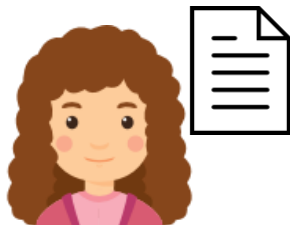
Creditors (human) usually take hours to make credit decisions

## After machine learning

Gives users a "score" **based on vast amounts of data** such as background information, transaction history and expected future income to **more accurately identify good borrowers**

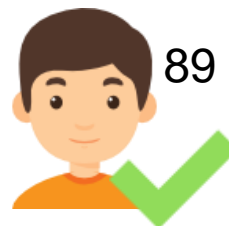
Using machine learning to determine how much a user can borrow and at what interest rate **faster and more objective than human**

## Use Cases

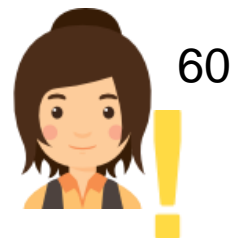


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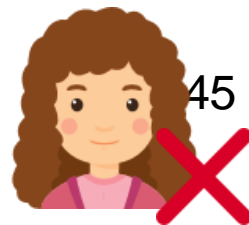
Accept



Need review

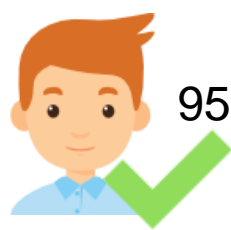


45



Reject

95



Accept

2

# **Customer Segmentation**

## Typical Problem

Before machine learning

### Overwhelmed Customer

Bank customers often get too many promos that are not relevant to their preferences

After machine learning

**Simplify** promo and choices offered to customers by combine taste, behavior, influence, context to **make taste graph**



## Use Cases



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**Men Sport**



**MANGO**



**Women  
Fashion**



**Health**

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# Fraud Detection

## Typical Problem

### Before machine learning

#### 1. Material lost

Fraud can cause material lost for a company

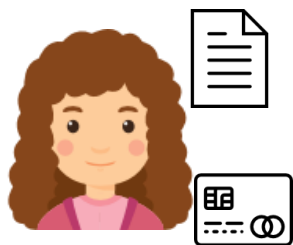
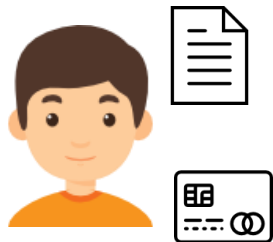
#### 2. Take a lot of resource

Detecting fraud usually takes a lot of time and resource

### After machine learning

Combine machine learning that can **detect fraud faster, minimize human error, consistent, and objective** with human power that can quickly adapt and learn to detect fraud

# Use Cases



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## Debt Collection

## Typical Problem

### Before machine learning

#### 1. Overkill act

Sometimes debt happens to good people. After having been subjected to a collection process on a small amount and treated badly people tend to upset and dissapointed

#### 2. Take a lot of resource

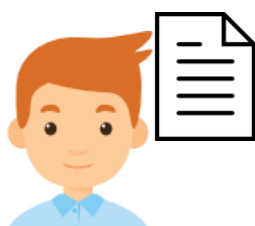
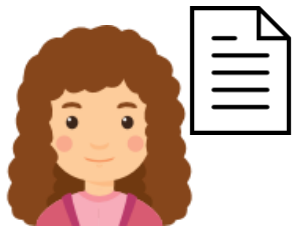
Human resource normally needed to do debt collecting (to make phone calls, being a debt collector, etc) and its take a lot of time and money

### After machine learning

Analyzing each of customers to **automatically classify them into good or bad debtor category**, avoid stressed collectors **harassing good customers**

**Increase** debt collecting **performance without hiring new person**, only make a phone call or send debt collector to bad debtor

## Use Cases



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Send email



Send email



Send debt  
collector



Give  
phone call

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# Customer Support



# Typical Problem

## Before machine learning

### 1. Customer satisfaction

Customer support agents often find it hard to rise customer satisfaction because of long response due to long tickets queue and not deliver tickets to right customer support agents

### 2. Repetitive question

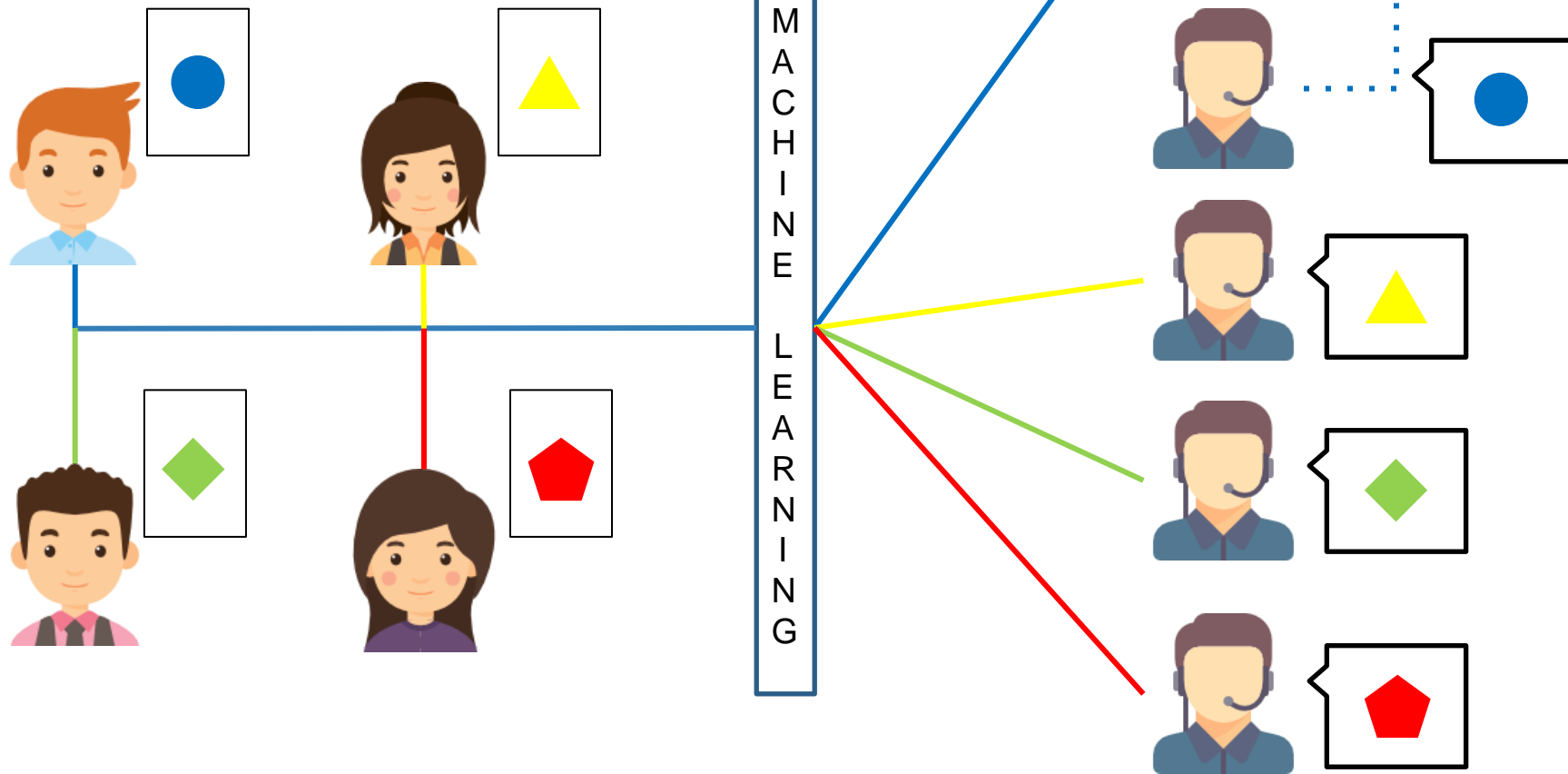
Customer support agents usually have to manually respond and solve simple, repetitive customer tickets

## After machine learning

**Predict** which **specific** group or individual **agents** that should **receive each new ticket**

**Automatically answer** simple and **repetitive question** so that agents can focus on inquiries that need human touch

## Use Cases



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# **Customer Retention**

## Typical Problem

### Before machine learning

#### 1. Late approach

Marketing team face an ongoing challenge of identifying which customers are about to churn at the 'right' time and then developing right approach to re-engage in order to keep their business

#### 2. Take a lot of resource

Detecting potential churn customers and developing right approach for each of that customers take a lot of human resource

### After machine learning

**Predicting** customers **churn early enough** to take action and **showing potential reasons** for churn for each individual customers (**recommending the best marketing content to improve retention**)

## Use Cases



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Good



Good



Please  
approach



Good

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# Search Engine

## Typical Problem

### Before machine learning

#### 1. Traditional way

Waste of time to manually (old school way) search whole sector filing, conference call transcript and other long document to get information edge.

### After machine learning

Provide a search engine that helps **instantly cut through the noise and uncover critical data points** that others miss

Find and **get alerted to critical information** buried in filings, news, research and customers owned content

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# **AI Assistant/Bots**



## Typical Problem

### Before machine learning

#### 1. Traditional way

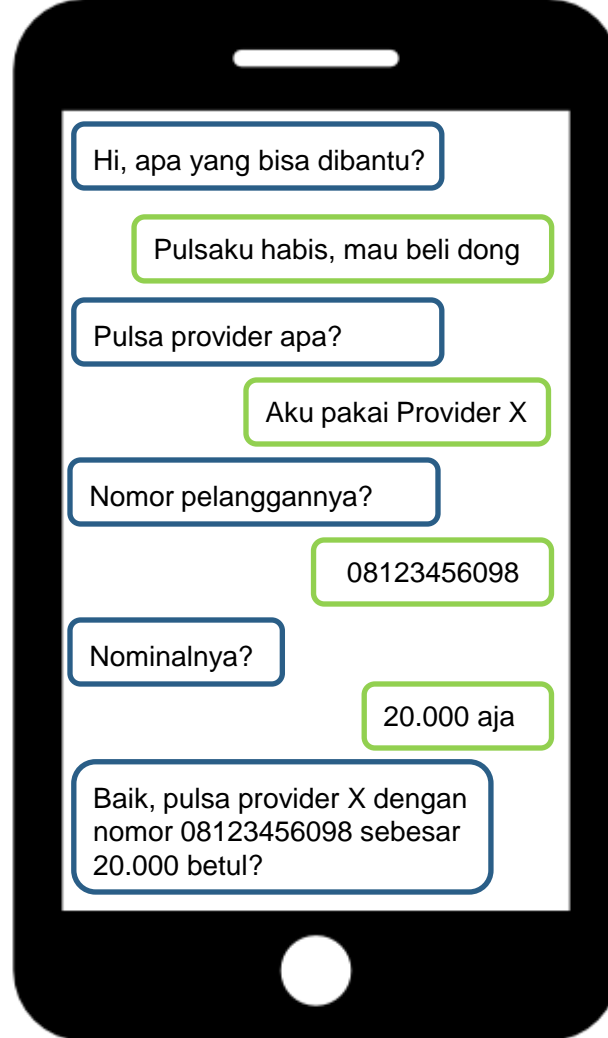
Customers using bank services via traditional application (mobile, internet, etc). They interacting with that application in traditional way, through clicking button

### After machine learning

Deliver all of bank's services on messaging platforms and **transform customers' engagement**

Create a **ubiquitous digital banking experience**. And, leverage messaging as a channel to **attract new customers**, especially the **ever-elusive millennial**.

## Use Cases



**Thank You**  
**Question?**



# Appendix

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