

# RUI Labs



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# Inspired by Andrew Ng's TED talk



1,578,417 views | Andrew Ng • TED2022

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## How AI could empower any business

[Read transcript](#)

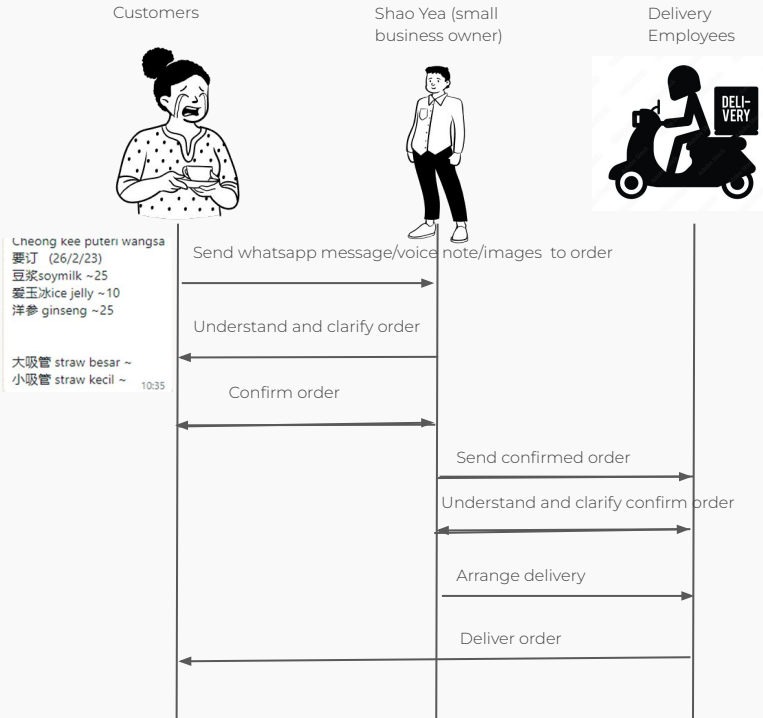
Expensive to build and often needing highly skilled engineers to maintain, artificial intelligence systems generally only pay off for large tech companies with vast amounts of data. But what if your local pizza shop could use AI to predict which flavor would sell best each day of the week? Andrew Ng shares a vision for democratizing access to AI, empowering any business to make decisions that will increase their profit and productivity. Learn how we could build a richer society – ...

**Democratizing  
access to AI for  
small  
businesses**

Case study: Shao Ye - SEA beverage company (small business)  
struggling to scale

**Missing/delayed orders** → unhappy customers → lost in revenues

# Deep dive into the problem



## Biggest pain points

- 1. Translation:** unstructured data input
  - a. Short form
  - b. Dialect and slang
  - c. Multi languages
- 2. Bottleneck:** Manual orchestration of the entire process
  - a. Not scalable
  - b. Not able to manage other key business operation
  - c. Overwhelmed
- 3. Prone to error:** Unhappy customer and productivity loss
  - a. Manual process
  - b. No single source of truth
  - c. Prone to error

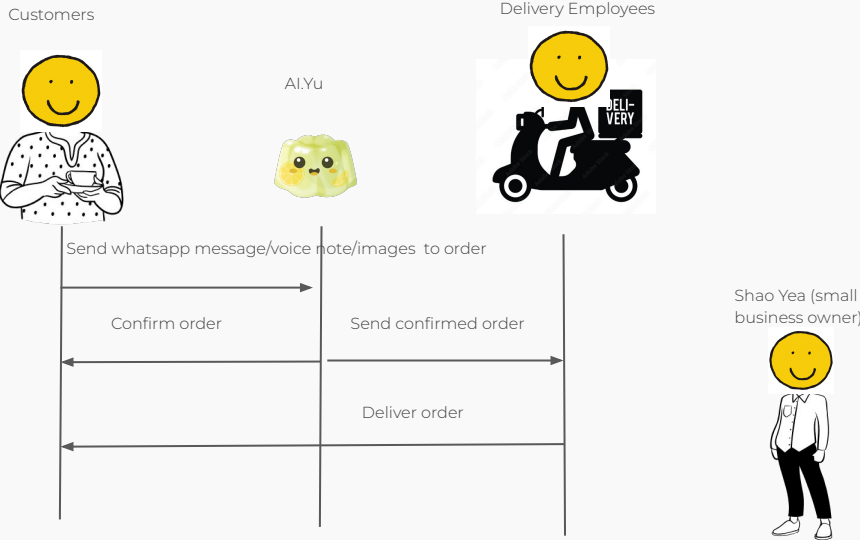


# AI.Yu

Supercharge your business operations

RUI Labs

# AI.Yu supercharge the business operation of Shao Yea



## Biggest pain points resolved

- 1. Translation → Automagically to structured data**
  - a. Voice note: Whisper
  - b. Text: Davinci
  - c. Picture: OCR
- 2. Bottleneck → Scalable and Free Man**
  - a. Facilitate by AI.Yu with 10x effectiveness → scalable
  - b. Stuck in execution → steering
  - c. Overwhelmed → calm
- 3. Prone to error → Highly accurate and fast**
  - a. Integrated and fast: Redis
  - b. Clean and transparent: UI
  - c. One single source: PWA

# Owner of Shao Yea: Enthusiastic user of AI.Yu

SY: It definitely solves my problem



First time seeing AI and RL in action!



SY: AI.Yu is my friend  
starting from now on!





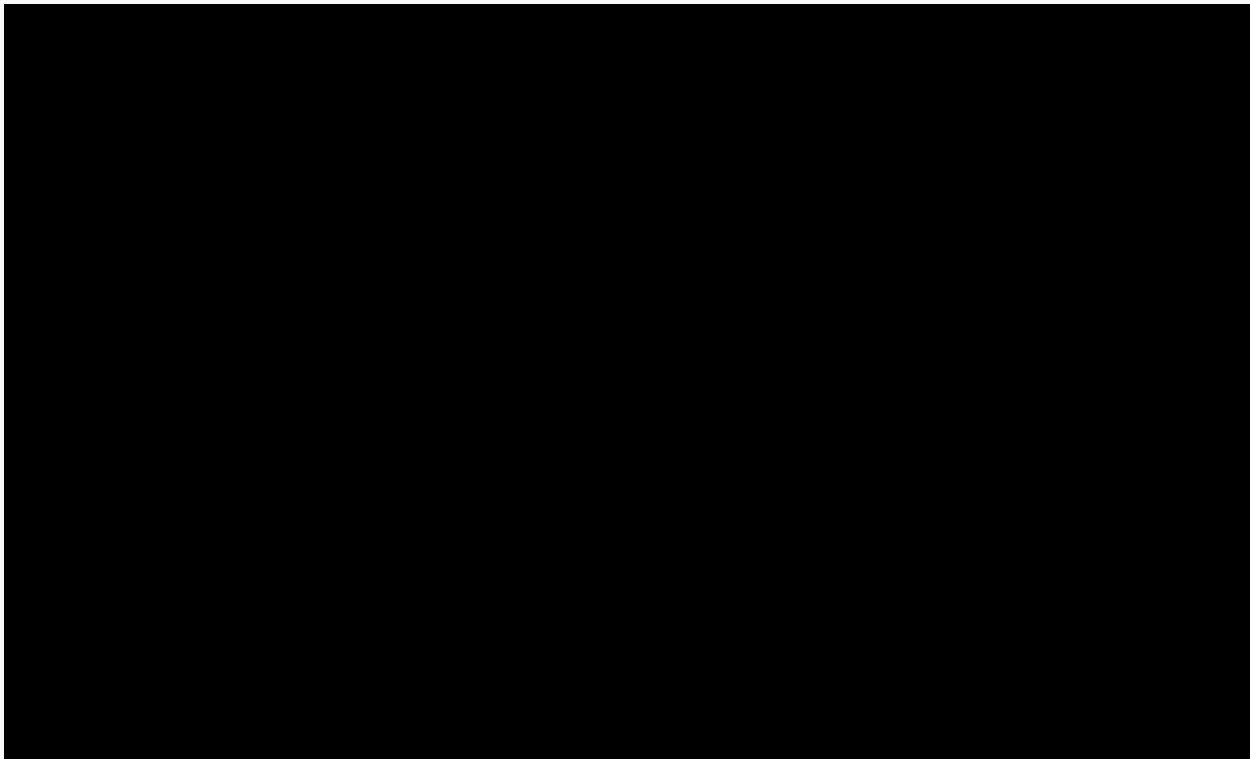


Let's find out why AI.Yu made SY so happy and excited

# Unstructured data to structured data to order - **Automagically**



Text to order

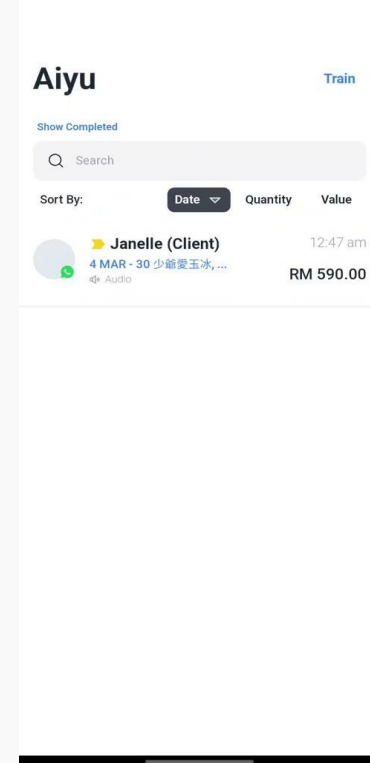


Picture to order



# Unstructured data to structured data to order - **Automagically** 🍮

Voice note to order

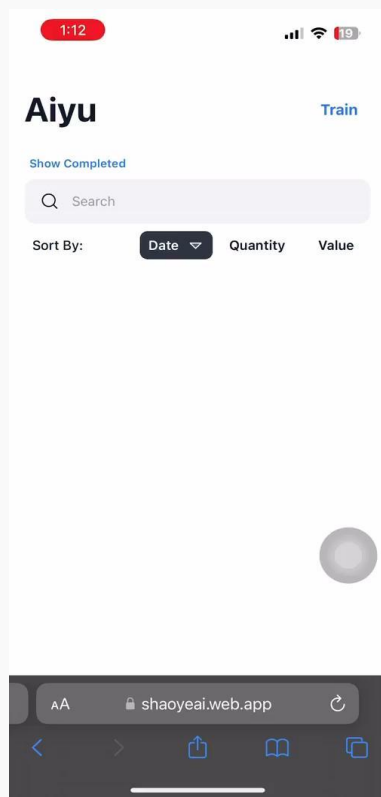


Integrated, highly **accurate** and fast

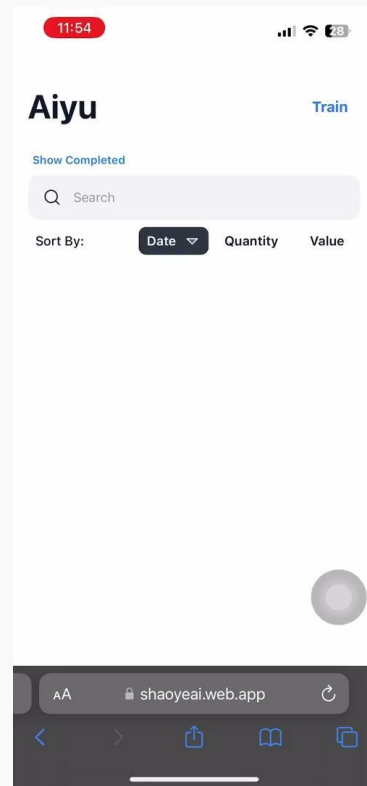


No code platform

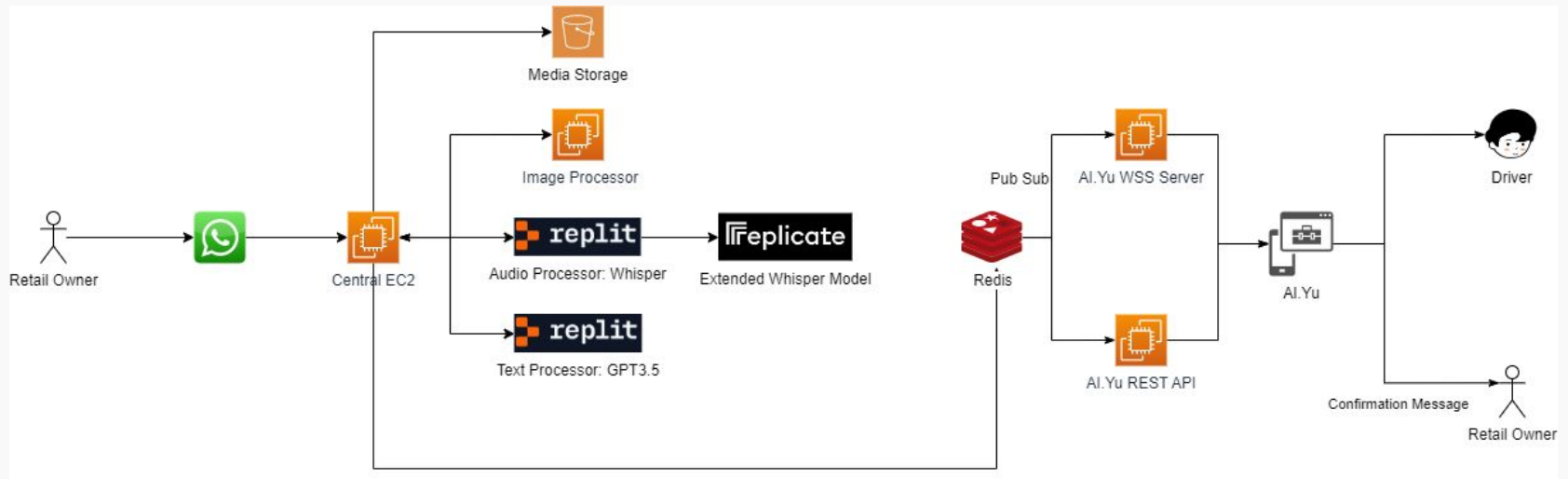
for fine tuning and RL



Single source,  
integrated, clean UI



# Technical implementation: Redis



Technical implementation: Open AI

Whisper

Davinci + Prompt tuning

Codex

<https://github.com/RUI-Labs>

fe: aiyu-ui

api: shaoye-redis

websocket: inside ec2

ocr : inside ec2

whisper: : <https://replit.com/@JunyaoC/aiyu-whisper-fast#main.py>

parse-tet : <https://replit.com/@JunyaoC/aiyu-parse-text#index.js>


# Custom Whisper

Custom Whisper extended to take prompt as argument for additional context.  
Packaged into Docker container and deployed to replicate.

The screenshot shows the web interface for the 'junyaoc / whisper-extended' project. At the top, there is a navigation bar with links for 'Dashboard', 'Explore', 'Pricing', 'Docs', 'Blog', 'Changelog', and 'Account'. The main header displays the project name 'junyaoc / whisper-extended' and a 'private' status. A notification box contains a message: 'Nice work, junyaoc! Now for some finishing touches.' followed by a checklist: 'Create a model', 'Push your model using Cog', 'Add a description', 'Add some examples', 'Link to your model's GitHub URL, (optional)', and 'Link to your model's paper URL, (optional)'. Below this is a navigation menu with 'Demo', 'API', 'Examples', 'Version (1.0.74.1196)', and 'Settings'. The main content area is split into 'Input' and 'Output' sections. The 'Input' section has a 'voice' field with a file upload icon and a 'voice Note' label, a 'prompt' text input field, a 'context' label, a 'lang' text input field, and a 'language' label. There are 'Submit' and 'Reset' buttons. The 'Output' section contains the text 'No output yet! Press "Submit" to start a prediction.' Below the input fields is a section titled 'Run time and cost' with a paragraph explaining the model's cost and a link to the dashboard. Further down are sections for 'Readme', 'Model description', 'Intended use', 'Ethical considerations', and 'Caveats and recommendations', each with a placeholder line. The footer contains a 'Replicate' logo and a list of links: 'Home', 'About', 'Docs', 'Terms', 'Privacy', 'GitHub', 'Twitter', 'Discord', and 'Email'.

# Custom Whisper

**Input**



00:07:917 / 00:07:917

audio

Drop a file or click to select  
WhatsApp-Audio-2023-02-27-at-11.38.31-AM-\_1\_wav

Audio file

model

large

Choose a Whisper model.

transcription

plain text

Choose the format for the transcription

translate

Translate the text to English when set to True

language

zh

language spoken in the audio, specify None to perform language detection

temperature

temperature to use for sampling

patience

optional patience value to use in beam decoding, as in <https://arxiv.org/abs/2204.05424>, the default (1.0) is equivalent to conventional beam search

**Output**

```
segments
[
  {
    "id": 0,
    "end": 1.4000000000000001,
    "seek": 0,
    "text": "不退黄色爱一饼20菊花养生20豆奶20",
    "start": 0,
    "tokens": [
      50964,
      1960,
      46391,
      6175,
      226,
      17673,
      50434,
      50464,
      27264,
      2257,
      165,
    ]
  }
]
```

transcription

不退黄色爱一饼20菊花养生20豆奶20

detected\_language

chinese


Share Share on Discord Report

Show logs

## transcription

不退黄色爱一饼20菊花养生20豆奶20

**Input**



00:00:000 / 00:07:917

Show logs

voice

Drop a file or click to select  
WhatsApp-Audio-2023-02-27-at-11.38.31-AM-\_1\_wav

Voice Note

prompt

产品：仙草豆奶，爱玉冰，菊花洋参，豆浆。使用号码比如二十写成20，地方名字：Puteri Wangsa, 包钱

the context

lang

zh

the language

Submit Reset

**Output**

Puteri Wangsa, 爱玉冰二十, 菊花洋参二十, 豆奶二十。

Share Share on Discord Add to example gallery Report

## Output

Puteri Wangsa, 爱玉冰二十, 菊花洋参二十, 豆奶二十。

Share

Share on Discord

Add to example gallery

Report



# Text-davinci-003

## Prompt tuning for information extraction.

- Used example to indicate expected output
- Introduced 'extra parameters' field, user can extend / finetune

The screenshot shows the OpenAI Playground interface. The main area contains an example prompt and its output. The prompt is:

```
Example:

Input:
aus分店 pou wok
要订 (26/2/23)
豆浆soymilk ~30
爱玉冰ice jelly ~30
洋参 ginseng ~40

自助餐: 爱玉冰20杯

大吸管 straw besar ~1
小吸管 straw kecil ~2

Output:
{ "for": "aus分店 pou wok", "date": "26/2/23", "product": [{"name": "soymilk", "quantity": 30}, {"name": "ice jelly", "quantity": 30}, {"name": "ginseng", "quantity": 40}, {"name": "straw besar", "quantity": 1}, {"name": "straw kecil", "quantity": 2}], "remarks": "自助餐: 爱玉冰20杯", "intent": "buy" }

---
```

The text above is an order for a beverage factory. For unspecified product quantity, assign it to 0. Extract the information into format like this

```
for: <Customer Name>
date: <Date of order>
product: [{name:<product_name>,quantity:<quantity of product>}]
remarks: <String> [Do not translate, edit the remarks! it is important to return the information as is!],
intent: ["buy"|"sell"|"general"]
```

Extra Parameters:  
S是Soya,J是Ice Jelly,G是Grass Jelly, 后面的是数量, 比如S30是30个Soya, tukar的东西, 名字后面加(tukar).

Input:  
####

Output:

At the bottom of the playground, there is a search bar with the text "Looking for ChatGPT? Try it now" and a "Submit" button.

The right sidebar contains settings for the playground:

- Mode: Complete
- Model: text-davinci-003
- Temperature: 0.7
- Maximum length: 256
- Stop sequences: Enter sequence and press Tab
- Top P: 1
- Frequency penalty: 0
- Presence penalty: 0
- Best of: 1
- Inject start text:
- Inject restart text:
- Show probabilities: Off

The page number 465 is visible in the bottom right corner.

# Text-davinci-003

## Using text-davinci model to post-process Whisper transcribed result

The screenshot shows the OpenAI Playground interface. At the top, there are navigation links: Overview, Documentation, Examples, and Playground. The Playground title is visible. On the right side, there are controls for the playground, including a search bar with 'aiyu-whisper-filter', and buttons for Save, View code, Share, and a menu icon. The main area contains the following text:

Due to local dialects and mispronunciation, some words had been wrongly transcribed. Here's a list of commonly misspelt phrase and the correct value:

舍, 舌, 色=十

Please make equivalent corrections, of the word is actually numbers, replace with number. e.g. 二十rewrite into 20.

E.g.:

爱玉冰二舍, 菊花洋参二舍, 豆奶二舍。= 爱玉冰20, 菊花洋参20, 豆奶20。

Input:

爱玉冰二舍菊花洋参二舍豆奶二舍

Output:

爱玉冰20, 菊花洋参20, 豆奶20。

On the right side, there are settings for the playground:

- Mode: Complete
- Model: text-davinci-003
- Temperature: 0.7
- Maximum length: 256
- Stop sequences: Enter sequence and press Tab
- Top P: 1
- Frequency penalty: 0
- Presence penalty: 0
- Best of: 1
- Inject start text:
- Inject restart text:
- Show probabilities: Off

At the bottom, there is a footer with a link 'Looking for ChatGPT? Try it now' and a 'Submit' button. The page number '247' is visible in the bottom right corner.



**AI.Yu**

Supercharge your business  
operations

Democratizing access to  
AI for small businesses

Thank You

## The Context

**Small businesses = limited manpower, capital, technology**

### **Manual processes**

Lack of resources, structure system and process in place to run all business operation effectively.

### **Inconsistent Quality**

Quality drops due to inadequate planning and execution.

### **Min. Tech skill set**

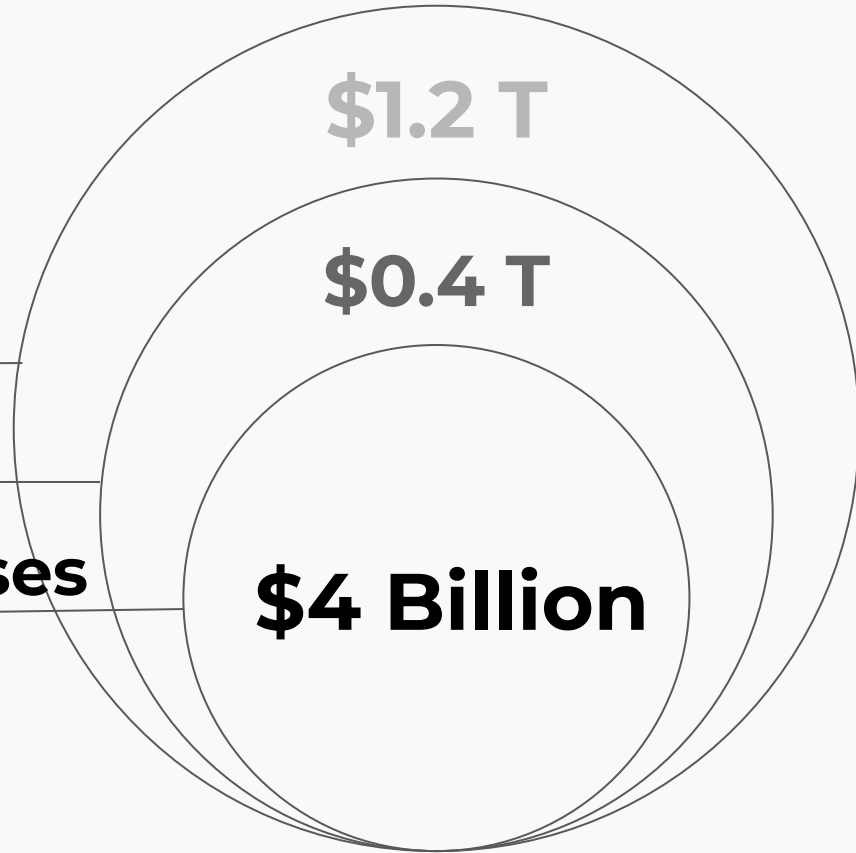
Lack of resources to keep up and invest in technology.

Market size: Opportunities

**Social Commerce**

**Small businesses**

**1% of small businesses**



**\$1.2 T**

**\$0.4 T**

**\$4 Billion**

# No effective solution for small businesses

## Features



Ai.Yu



MessageBird



Twilio



Vonage

No code



Fine tuning with RL



Multi channels



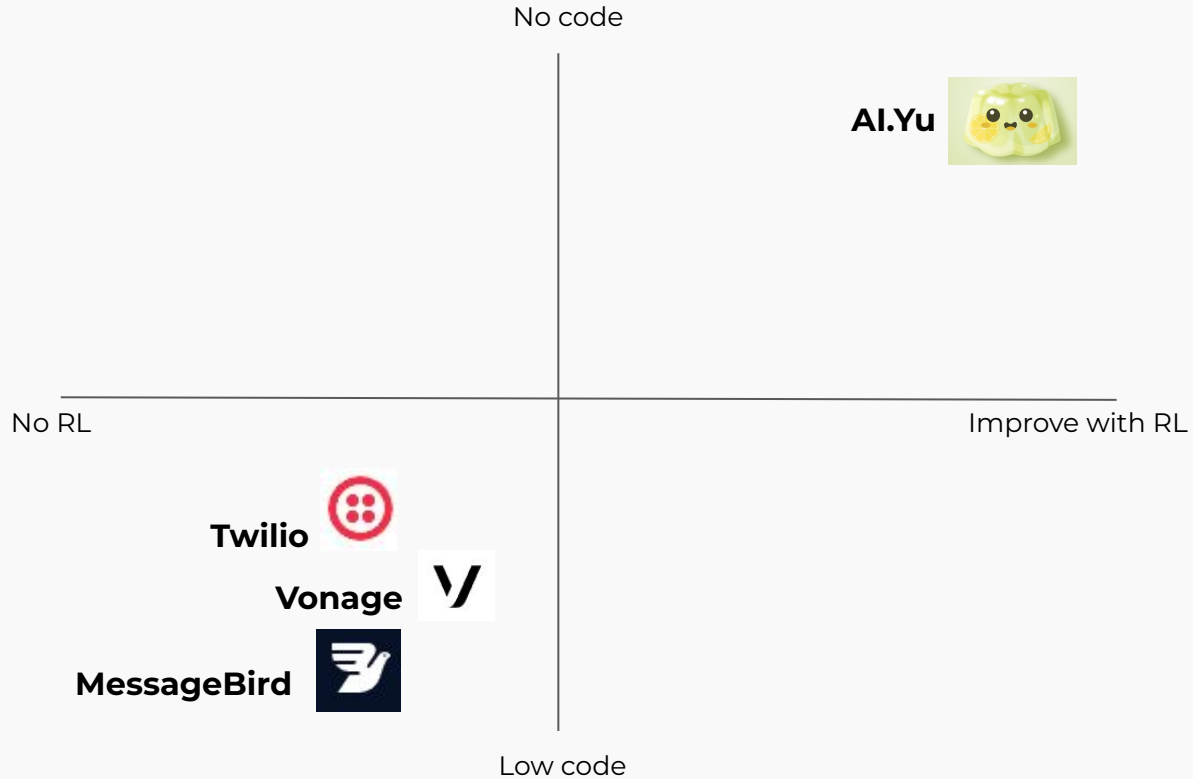
Flexible integration



Pay per use



# No effective solution for small businesses



# Business Model : B2B

## Industry

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- Small businesses
- Influencers
- Service sector

Pay per use (2% every order)





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