

Smart Printer

**Ultimate Homework Grading Solution
Based on Large Models**

**AI + Education Integrated Smart Hardware and
Software.**

Project Highlights

Pain point

daily homework grading:
highly repetitive
Cannot automatic mark on paper
no error analysis or organization

Technique

Combine large multimodal models
with printer hardware
recognized by Baidu and Intel

Function

Instant scanning and grading
Can grade complex questions &
geometry problems

Feedback

Video played over 50,000 times
hundreds of teachers applied for trials
great feedback from early users.

Launch

Deployed in three schools
over 10,000 papers graded
accuracy over 97%

For each question, judge right or
wrong and write comments



Homework marking machine

Parents

Improved learning rate of
wrong questions by 50%

Teachers

Improved grading
efficiency by 1000%

Schools

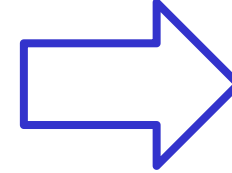
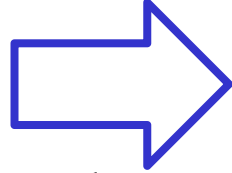
Improved of school
informatization rate by 30%

Cut-in opportunity

- ❑ Staying up late? **Over 91%** of practice questions are ineffective.

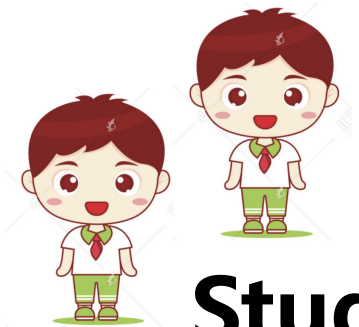


Students

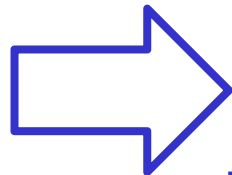


Same difficulty, same concept, ineffective practice.

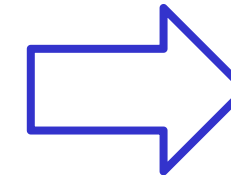
- ❑ Why? lack of solutions to **comprehensively collect** full learning data



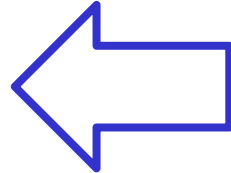
Students

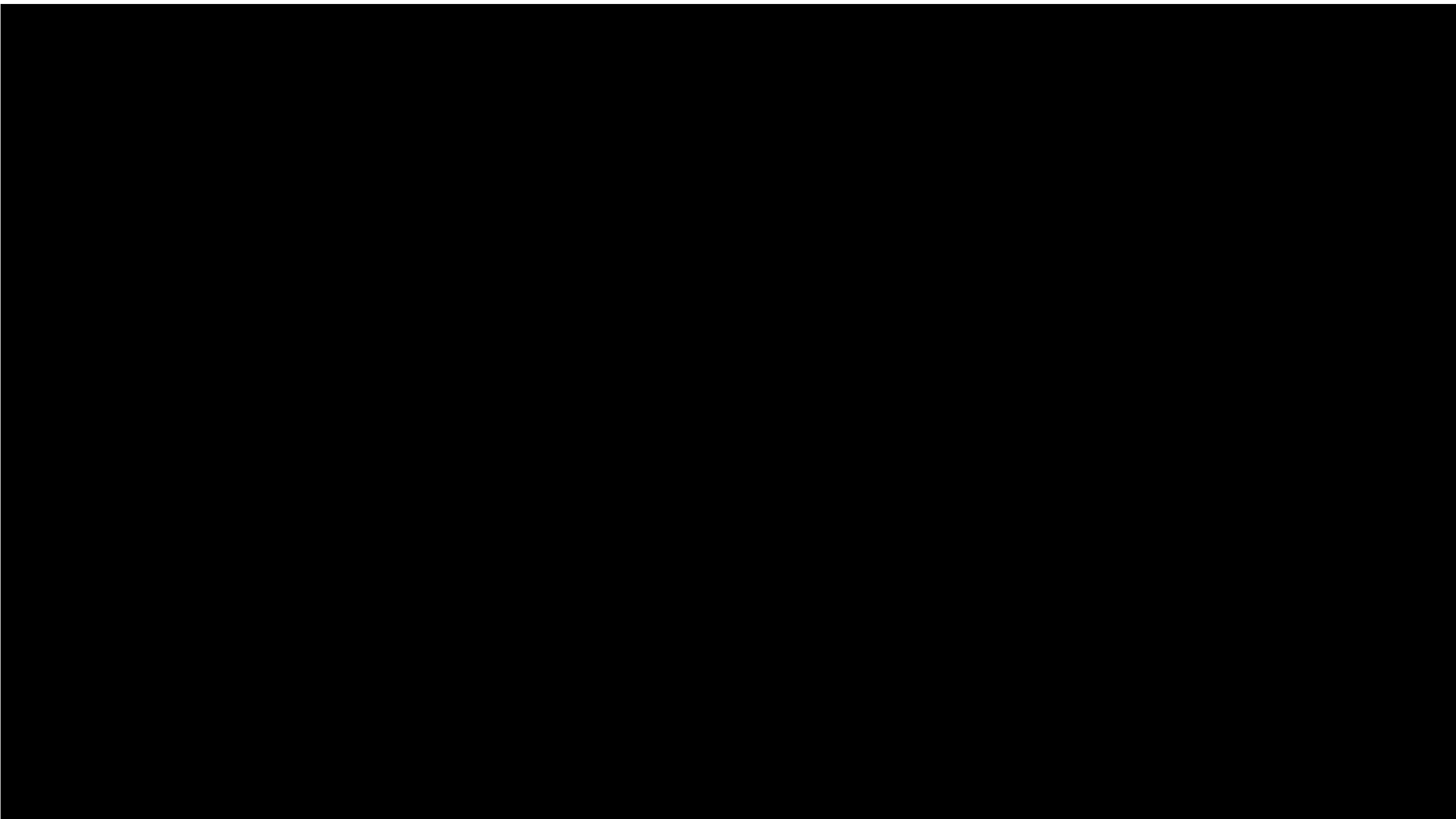


Focus 91% of effort on 9% of unknown concepts.



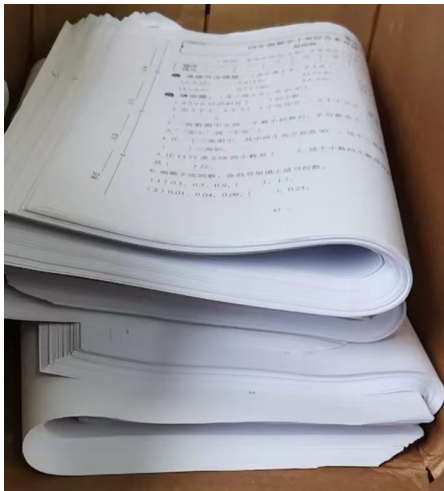
Market gap





Product Introduction

100 Unmarked papers



Regular teachers: 1 hour

Speed: **Boost by 1000%!**

Smart printer: 2 minute

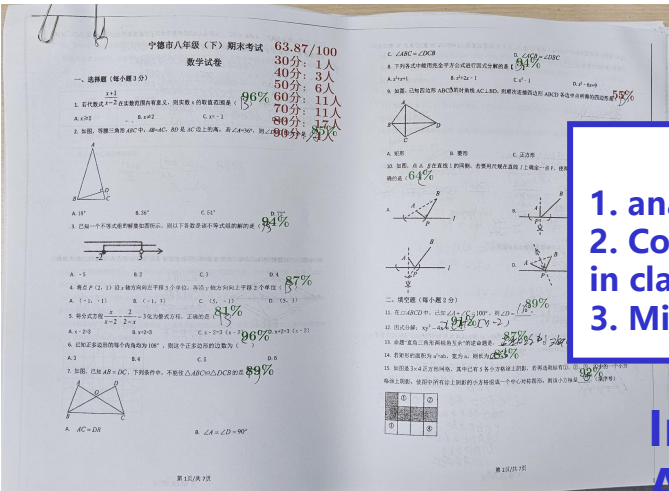
Ordinary teacher: fuzzy analysis

Quality: **Accurate Analysis**

Smart printer: Personalized Permanent Record, Accurate Analysis

Achieve **personalized learning**

100 marked papers



Plus:
1. analysis report
2. Common mistakes in class
3. Mistake record

In 2 min,
All done!

Scan(50 sec)



Fully automatic
100+ pages/minute

Upload(10 sec)



Multimodal Large
model analysis &
Comparison with
question bank

Download(10 sec)



Correction results &
comments output
Organize incorrect
questions

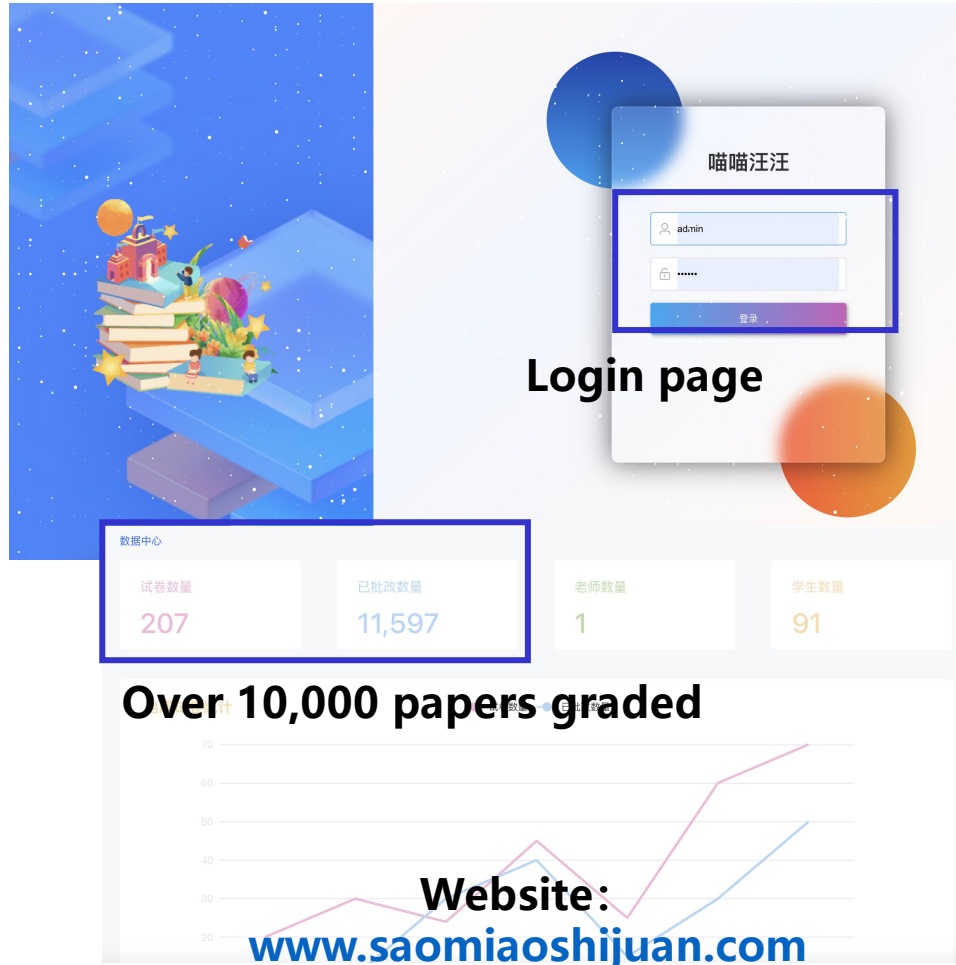
Print(50 sec)



Accuracy over **97%**
Cost only **0.7 cents**
per page

Product introduction

Teacher interface: Smart exam analysis



Student interface: Mistake statistics & mistake notes generation



↑ Example: Liang's mistakes
throughout the semester

Product advantage analysis

Combines large model tech with hardware for high-quality grading.

Criteria	Smart Printer	Chegg	Answer sheet Scantron
Input method	One-click, bulk input	Photograph/scan paper manually	Scan specialized paper
Record of grading	Automatic marking on paper	Manually write correction results	Manually mark online
Correction method	Multimodal large model	AI-based automatic text solutions	N/A
Accuracy rate	Over 97%	Below 90%	-
User experience	Proactively apply for paid trial	Cannot promote	Unable to grade daily assignments & very high costs.

hundreds people applied for a trial!



33115

纸质作业留痕批改机器

小红书

张洪申

317



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纸质作业留痕批改机器

2024年03月13日 18:47:50

当前字幕: 1 (含平台自动生成)

2.3万 140 3 87

↑ Bilibili

Product selling points

Teacher

1. **Efficiency up 1000%** (grading reduced **from 60 min to 2 min**)

2. **Personalized** learning reveals class differences and student weaknesses.



headmaster

1. Error analysis **increased by over 30%**, average grade up by 5%.

2. Achieve educational informationization.



education department.

1. **AI + education** with promotional significance.

2. Boost grades by analyzing knowledge gaps **using big data**.



Parents

1. Complete error organization, **coverage up by 30%**, average score up by 5%.

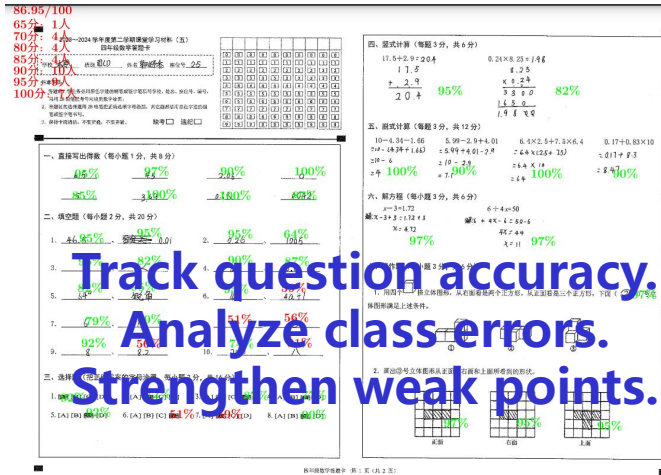
2. Print error books, greatly helping students and parents.



meets the needs of teachers, principals, education officials, and parents.

Customer Feedback - Case 1

Benyuan Primary School, Foshan (Grade 4, Mathematics and English)



试用4个月来,已累计使用约1万张纸张用于测试功能(含试卷和练习题打印)。

特此说明。

(本件仅对于试用事项进行说明,不得用于推销宣传。)

graded 10,000 sheets.

单位名称: 佛山市顺德区本原小学

2024年6月19日

Feedback

今天打印好发下去评讲，没说批改错了的，厉害👍

Math teacher:
Printed and handed out today,
didn't mention correcting mistakes. impressive.

English teacher:
Overall satisfied, grade
with it next time

我校有一个副校长下学期调任到新学校，刚才联系我，想用自动批改功能，如何回答她呢？

Vice Principal:
Transferred to a new
school, **also wants to
use** our machine.

Customer Feedback - Case 2

Wensan Street Primary School, Hangzhou (Grade 3, English)

81.91/100

杭州市文三街小学四下英语 Unit4-Unit5 独立练习卷

Listening Part(听力部分 40%)

I. Listen and choose. (听录音, 选出你所听到的单词或词组。5%)

1. (C) 96% B. skirt C. shirt
(B) 98% B. your C. yours
(A) 98% B. those C. this
(C) 98% B. 17 cows C. 15 cows
(C) 98% B. sweater C. weather
(B) 98% B. those carrots C. these carrots

II. Listen and number. (听录音, 排序。5%)

96% 98% 96% 96% 98%

III. Listen and choose the answer. (听句子, 选择适当的回答。5%)

(B) 98% B. Yes, they are.
(C) 98% B. They are carrots.
(A) 98% B. The potato is good.
(B) 98% B. They are my new pants.
(B) 98% B. Yes, it's mine.
(C) 98% C. Yes, they're mine.

IV. Listen and choose. (听短文, 选择正确的答案。5%)

(B) 100% B. Lucy's bed.
(A) 96% B. clothes C. balls
(A) 96% B. on the sweater.
(B) 91% B. three cats C. two dogs
(A) 96% B. dress C. pants
(A) 96% B. the best.
(A) 96% B. brown jacket
(C) 93% B. black jacket
(A) 93% B. near the coat.
(A) 93% B. hat C. scarf

V. Listen and judge. (听短文, 判断正(T) 误(F)。10%)

(F) 58% B. a big wardrobe(衣柜) in her bedroom.
(F) 58% B. a big wardrobe(衣柜) in her bedroom.
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(F) 58% B. a big wardrobe(衣柜) in her bedroom.

VI. Listen and write. (听录音补全句子。10%)

1. The apples 51% table 87%
2. This is my homework 89% horse 87%
3. I'd like to use a fork 94% noodles.

Reading and writing Part (读写部分 60%)

I. Read and choose. (选出划线部分发音不同的一项。5%)

(C) 62% B. homework C. huge
(A) 44% B. fat C. shorts
(C) 98% B. egg C. wall
(C) 98% B. leg C. apple
(C) 98% B. noodle C. clever

II. Read and match. (读句子, 给下列句子选择相应的图片。6%)

(A) 100% B. I can put on my sunglasses.
(C) 100% B. I can put on my sunglasses.
(C) 100% B. I can put on my sunglasses.
(C) 100% B. I can put on my sunglasses.
(C) 100% B. I can put on my sunglasses.

III. Read and choose. (读一读, 选出恰当的答案。5%)

(B) 100% B. green beans? - Yes, they are.
(B) 100% B. green beans? - Yes, they are.
(B) 100% B. green beans? - Yes, they are.
(B) 100% B. green beans? - Yes, they are.
(B) 100% B. green beans? - Yes, they are.

very satisfied
with this
version.

2024年5月11日 22:39

嗯嗯👍 希望我下次批改就是O版本了

目前这一版已经很满意了👍

Graded
1,000+ papers
20,000+ questions
Accuracy 97%

English teacher Ms. Hu: be willing to pay for our product:

1. The scanner previously purchased has been left unused
2. She is willing to pay for our product and to further promote it.

Technical strength

❑ Tech strength recognized by Baidu, Intel, Amazon, etc.



Baidu AI Contest
(3rd out of 200)



Intel AI Contest
(6th out of 2000)

Baidu Paddle posts tech updates

Project video shown at 2024 Intel Developer Conferenc

阅读 4187 Read over 4,000 times

👍 19

🔗 564

🌟 17

💬 写留言

Shared over 500 times



Core team members



❑ Founder: Hongshen Zhang

- PhD in **Control Science, Zhejiang University**.
- Tech column on **Baidu**, showcased at **2024 Intel Conference**, and **featured in Nature**.



❑ Co-founder: Xinjing Li

- Bachelor's degree from **ZJU Chukocheng College**
- Master's in Computer Science from Columbia, **interned at Morgan Stanley**, **NLP research assistant** at ETH Zurich.



❑ Co-founder: Pengfei Fan

- Bachelor's from Zhejiang University
- In charge of **school project coordination**, completed deployments at Foshan Benyuan Primary School, Qian Xuesen School in Hangzhou, and Wensan Street Primary School in Hangzhou.

Team Members (Advisors)



□ Tao Shen

- Information Engineering major, Zhejiang University.
- Head of Product Operations at Jiandaoyun.
- Led Jiandaoyun to achieve 200 million in revenue over 3 years.



□ Zihui Zhang

- Chief Engineer at Zhejiang University IT Center
- former IT head at Alibaba Group
- Built Alibaba Mail System, which grew into Cainiao Post



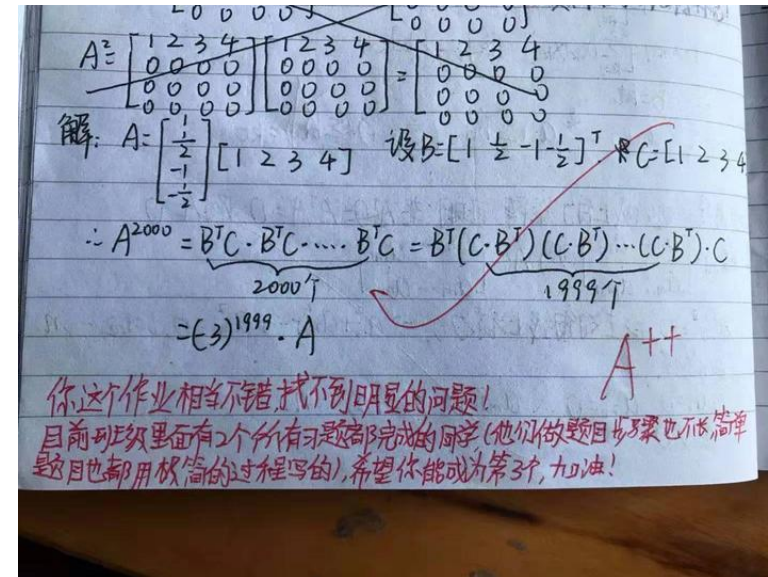
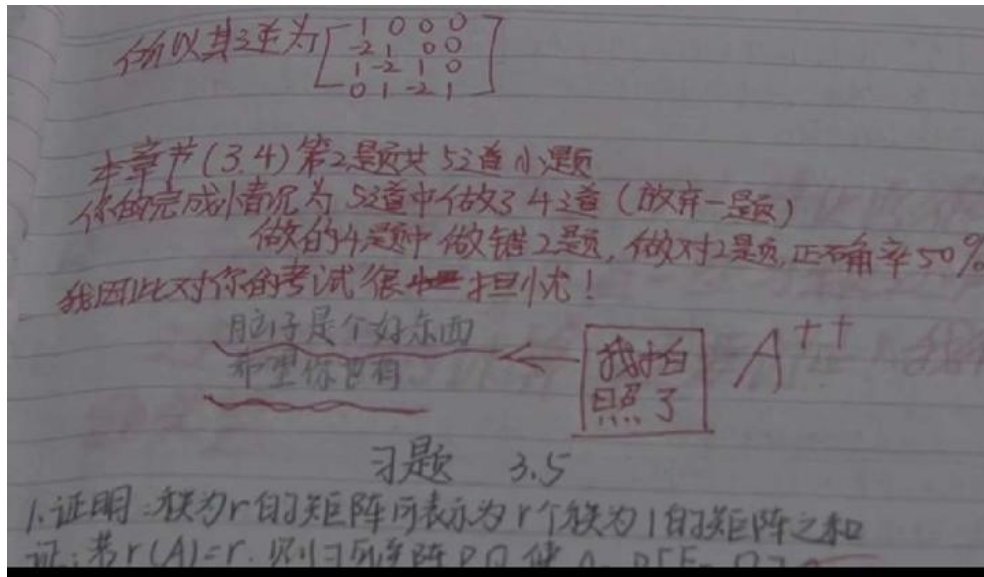
□ Fei Yu

- Associate Professor, School of Mathematical Sciences, Zhejiang University.
- Conjecture seen as a key breakthrough in 20 years, proven by a Fields Medalist.

Leading education

❑ Why this project? Because used to be a teaching assistant...

1. usually spend minutes writing comments, but it is **difficult to scale**
2. deeply concerned about **the lack of grading processes** in education
3. aim to maintain a student-centered approach



Born from passion, from the heart: this is the origin of our project!

Summary

❑ Paper-Based Homework Marker — Core of School Learning Reform

- One-click processing: 50 sheets/min, 0.05 RMB/sheet, 97%+ accuracy
- Intelligent platform: Analyzes errors, weak points, and auto-prints correction materials
- Product progress: 10K+ tests reviewed, praised by teachers & parents.

