

# OCR Benchmark Test Document

## 1. English Text Section

Artificial intelligence (AI) has revolutionized document processing. Modern OCR systems leverage vision-language models (VLMs) to understand complex layouts including tables, mathematical formulas, and multilingual text. This document tests extraction accuracy across these dimensions.

## 2. Data Table

Model	Params (B)	Accuracy %	Speed (p/s)	Cost
MinerU 2.5	1.2	90.67	2.12	Free
DeepSeek-OCR-2	3.0	91.09	~2.3	\$0.01/1K
GLM-OCR	0.9	94.62	1.86	\$0.03/1M
Tesseract 5.x	N/A	~78.5	0.8	Free
GPT-4o Vision	~200	93.1	~1.0	\$5/1M

## 3. Mathematical Formulas

- Euler's identity:  $e^{i\pi} + 1 = 0$
- Quadratic formula:  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
- Gaussian integral:  $\int_{-\infty}^{\infty} e^{-x^2} dx = \sqrt{\pi}$
- Bayes' theorem:  $P(A|B) = P(B|A) * P(A) / P(B)$
- Cross-entropy loss:  $L = -\sum(y_i * \log(p_i))$

## 4. Structured List

1. Layout detection and reading order preservation
2. Table structure recognition (rows, columns, merged cells)
3. Formula extraction to LaTeX notation
4. Multi-language text recognition (CJK, Arabic, Cyrillic)
5. Handwriting and low-quality scan handling

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## 5. Chinese Text Section

序基战

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## 6. Financial Data Table

Quarter	Revenue	COGS	Gross Margin	OpEx	Net Income
Q1 2024	\$12.5M	\$4.2M	66.4%	\$5.1M	\$3.2M
Q2 2024	\$14.8M	\$4.9M	66.9%	\$5.4M	\$4.5M
Q3 2024	\$16.2M	\$5.3M	67.3%	\$5.8M	\$5.1M
Q4 2024	\$18.9M	\$6.1M	67.7%	\$6.2M	\$6.6M
FY 2024	\$62.4M	\$20.5M	67.1%	\$22.5M	\$19.4M

## 7. Code Snippet

```
def extract_text(pdf_path: str) -> dict:
    """Extract structured content from PDF."""
    from mineru import MinerUParser

    parser = MinerUParser(backend="vlm-http-client")
    result = parser.parse(pdf_path)

    return {
        "text": result.get_text(),
        "tables": result.get_tables(format="html"),
        "formulas": result.get_formulas(format="latex"),
        "images": result.get_images(),
    }
```

## 8. Special Characters & Edge Cases

Currency: \$100.50 | EUR 85.30 | GBP 72.15  
Email: test.user@example.com | Phone: +852-1234-5678  
URL: <https://github.com/opencv/opencv>  
Fractions: 1/2, 3/4, 7/8 | Percentages: 99.97%  
Date formats: 2024-12-25 | 25/12/2024 | Dec 25, 2024  
Units: 100kg, 3.14m/s, 25C, 1024MB, 10Gbps