2025年2月版

技术解析篇
开发实战篇
行业应用篇
个人使用篇

《DeepSeek Starter Guide》
Volume 3: Industry Applications

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02 How Does DeepSeek Give Each Industry Its Unique AI Brain?

03 Empowering Four Industries with DeepSeek: Healthcare, Finance, Manufacturing, and Education

51CTO 51CTO智能研究院、51CTO传媒、51CTO学堂联合出品

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Why DeepSeek Can Ignite Various Industries?

Four Key Differential Capabilities

DeepSeek Gives Each Industry Its Unique AI Brain

- Precision Inference
- Domain Adaptation
- Multi-modal Collaboration
- Lightweight Deployment

Precision Inference: Accelerating Complex Task Processing

3x Faster in Handling Complex Tasks Compared to Models of Similar Parameter Size

Enhanced Inference Efficiency

Adopting Sparse Attentions to Reduce Redundant Computations and Boost Efficiency

Improved Inference Accuracy

Up to 84.0% Accuracy in Natural Language Inference Tasks

Supporting High-Concurrency Scenarios

Capable of Multi-task Parallel Processing, Suitable for High-Concurrency

Potential Applications

Intelligent Contract Review
Automatically parsing legal texts and identifying potential risk clauses.

Exception Response
Instantly identifying excepts during transportation and automatically triggering emergency responses.

Hot News Generation
Real-time analysis of social media data to generate initial drafts of trending news.

User Behavior Analysis
Real-time tracking of user viewing habits to dynamically adjust content recommendation strategies.

Streaming Moderation
Rapidly identifying inappropriate content in live streams with a latency below 500 milliseconds.

Legal Consultation
Instantly generating professional answers to legal questions, supporting multi-round dialogue logical reasoning.

Domain Adaptation: Meeting Customized Needs in Vertical Domains

Supporting Fine-tuning Interfaces for Multiple Vertical Domains

Exclusive Pre-trained Models

Providing domain-specific pre-trained models that support rapid fine-tuning

Open API Interfaces

Opening API interfaces to allow enterprises to inject custom data

Applicable Scenarios

Intelligent Policy Document Parsing
Fine-tuning models to parse local policies and generate concise interpretations for public inquiry.

Cross-border Legal Consultation
Customizing fine-tuned models for different national legal systems, supporting multi-language legal Q&A.

Intellectual Property Protection
Training patent infringement detection models to automatically compare technical documents with patent databases.

Product Price Prediction
Combining market supply and demand data to predict future price trends and guide sales strategies.

Pest and Disease Warning System
Training customized warning models based on regional climate and crop data.

Agricultural Knowledge Q&A
Providing planting technical guidance for different crop types, supporting dialect interaction.

Multi-modal Collaboration: Enhancing Data Processing and Analysis Efficiency

Combined Analysis Capability for Text, Table, and Time-series Data

Support Joint Modeling

Support joint modeling of text, table, and time-series data

Lower Development Thresholds

Providing a unified data processing framework to reduce development barriers.

Applicable Scenarios

Intelligent Management for Multimedia Asset
Jointly analyzing video, audio, and text data to automatically generate summaries and tags.

Advertising Effectiveness Evaluation
Synchronously analyzing ad click-through rates, viewing durations, and user comments to optimize ad placement strategies.

Intelligent Sorting System
Optimizing sorting paths through image recognition of package types and weight data.

Package Status Tracking
Integrating tracking numbers, GPS trajectories, and damage images for full-chain monitoring.

Interactive Content Generation
Combining user comments (bullet chats) and live stream footage to generate real-time interactive Q&A content.

UAV Plant Protection Decision-making
Analyzing aerial photos of farmland, pest and disease databases, and pesticide records to formulate spraying plans.

Lightweight Deployment: Driving Efficiency and Cost Reduction

Run Basic Services with Only 10GB of Memory

Low Memory Usage

Significantly reduce memory usage through model compression techniques

Support Edge Deployment

Support edge deployment, suitable for resource-constrained scenarios

Enhanced Inference Speed

Significantly increases inference speed on low-power devices

Applicable Scenarios

Emergency Management
Deployed on portable devices for real-time disaster data analysis and rescue plan generation.

Warehouse Inspection Robots
Processing environmental data in real-time through edge computing to improve inspection efficiency.

Mobile Government Service Terminals
Running smart Q&A systems on low-spec devices to support government services in remote areas.

Agricultural Quality Inspection Devices
Using handheld devices with image recognition to quickly assess the appearance quality of agricultural products.

In-vehicle AI Assistants
Running fatigue driving monitoring and route optimization models locally on vehicles.

Field Intelligent Sensors
Running pest and disease recognition models on low-power devices for real-time warnings.

DeepSeek Empowers the Healthcare Industry

Writing Medical Records, Assisting in Diagnosis, Enhancing Research Efficiency

Industry Pain Points

- Time-consuming processing of unstructured medical records
- Insufficient experience in diagnosing rare diseases
- Inefficient analysis of research literature

Intelligent Consultation Preprocessing	Using DeepSeek's NLP, patients can describe symptoms orally, and the system automatically generates structured medical records, reducing doctors' input time.
Automatic Imaging Report Generation	Combining multi-modal capabilities, DeepSeek analyzes CT, MRI, and other imaging data to automatically generate diagnostic reports with significantly improved accuracy.
Drug Discovery Knowledge Graph	By analyzing vast amounts of medical literature and clinical trial data, DeepSeek accelerates drug target discovery, significantly shortening the new drug development cycle.

DeepSeek Applications in Healthcare

JianLan Technology's **clinical decision system** based on DeepSeek-R1 enables doctors to complete multi-dimensional risk assessments for critically ill patients within 30 seconds, with a 42% accuracy improvement over traditional methods; It also improves the detection rate of minute lesions to 97.3% and **automatically generates differential diagnosis suggestions and treatment plan comparisons.**

30s

multi-dimensional risk assessment for critically ill patients

42%

accuracy improvement compared to traditional methods

97.3%

detection rate for minute lesions

DeepSeek Empowers the Financial Industry

Predict Volatility, Dynamic Risk Management, Personalized Financial Solutions

Industry Pain Points		
• Delayed recognition of high-frequency trading signals	⇐	**Real-time Public Opinion Monitoring System**: DeepSeek analyzes news and social media data to predict market volatility, reducing warning times to seconds.
• Lagging updates of anti-fraud rules	⇐	**Dynamic Risk Management Model Training**: Through reinforcement learning, DeepSeek updates anti-fraud rules in real-time, helping financial institutions reduce fund losses.
• High costs of customized personalized financial solutions	⇐	**Intelligent Conversational Investment Advisory Engine**: Combining user risk preferences and asset data, DeepSeek generates personalized financial solutions, helping clients better understand market dynamics and investment strategies.

DeepSeek Applications in the Financial Industry

Jiangsu Bank has deployed the DeepSeek-VL2 multi-modal model **focusing on intelligent contract quality inspection.** Using NLP and image recognition technology, the model **automatically parses** contract **texts and charts, seal information in attachments, identifying risk points and compliance vulnerabilities** in clauses.
This application is estimated to increase contract review efficiency by 300% and reduce the error rate to below 0.5%.

300%

increase in contract review efficiency

0.5%

lower error rate

DeepSeek Empowers the Manufacturing Industry

Fault Warning, Production Optimization, Risk Assessment

Industry Pain Points

- Inaccurate equipment fault prediction
- Difficulties in optimizing production scheduling
- Slow response to supply chain anomalies

Predictive Maintenance	DeepSeek analyzes equipment sensor data to provide early fault warnings, reducing downtime.
Multi-objective Production Scheduling Optimization	Using deep learning algorithms, DeepSeek optimizes production scheduling to improve inventory turnover.
Supply Chain Risk Profile	DeepSeek builds supplier risk assessment models, reducing excepts response times to minutes.

DeepSeek Applications in the Manufacturing Industry

Lenovo is exploring more vertical collaborations with DeepSeek. In **intelligent quality inspection**, DeepSeek's multi-modal model analyzes production line image data, achieving over 99% accuracy in defect recognition.

In **supply chain management**, combining time-series prediction models optimizes inventory turnover, helping enterprises reduce costs by over 20%.

99%

accuracy in defect recognition

20%

cost reduction

DeepSeek Empowers the Education Industry

Precise Teaching, Personalized Assistance, Optimized Educational Practices

Industry Pain Points		
• Incomplete student ability assessment	⇐	**Multi-dimensional Learning Situation Analysis** — DeepSeek analyzes student answer data to generate learning situation heatmaps, aiding teachers in precise guiding.
• Inefficient matching of teaching resources	⇐	**Personalized Learning Plans** — Based on student ability levels, DeepSeek recommends personalized exercises for a unique learning experience.
• Blind spots in plagiarism detection	⇐	**Data-driven Research Support** — DeepSeek provides a scientific basis for educational policy research and decision-making, aiding in the optimization and innovation of educational practices.

DeepSeek Applications in the Education Industry

NetEase YouDao's AI general learning assistant, "YouDao XiaoP," has further optimized its personalized answer by incorporating the thinking and analytical capabilities provided by DeepSeek-R1's Long-CoT, **offering deeper and more accurate problem-solving approaches.**

Internal evaluation data shows that DeepSeek-R1 achieves an accuracy rate of up to 88% on YouDao's K12 test set.

	k12-math(内部测试集)	MATH500	GAOKAO			
			客观题		主观题	
			Sci.Math	Hum. Math	Sci.Math	Hum. Math
GPT-4o	59.41	60.3*	77.57	85.32	55.92	62.63
o1-preview	/	85.5*	/	/	/	/
o1-mini	85.71	90.0*	96.73	98.62	73.61	81.79
DeepSeek-R1	88.12	/	/	/	/	/
QwQ-32B	83.17	90.6*	97.2	99.08	82.2	85.01
Sky-T1-32B-Preview	83.17	82.4*	97.2	97.25	76.66	76.51
Qwen2.5-14B-Instruct	65.35	76.2	83.64	89.45	53.66	62.47
DeepSeek-R1-Distill-Qwen-14B	80.20	/	/	/	/	/
Confucius-o1-14B	81.19	81.6	93.93	98.96	68.46	76.68

88%

Accuracy Rate Up to

Enterprises Have Announced Their Integration with DeepSeek

Medical Industry	YIDUTECH	Airdoc	CloudDr.	……
Financial Industry	Guotai Jun’an Securities	Jiangsu Bank	CITIC Securities	……
Manufacturing Industry	Great Wall Motors	Dongfeng Motor Corporation	Geely Automobile	……
Education Industry	Netease Youdao	Seewo	Yuexuetang	……
Cybersecurity Industry	360	Qianxin	Venustech Group	……
Cloud Computing	Alibaba Cloud	Huawei Cloud	Tencent Cloud	……
Chip Industry	Hygon Information	Huawei	Moore Threads	……

(Sorted by the pinyin of the companies)

More Resources for Learning About DeepSeek and AI

Deepseek Official

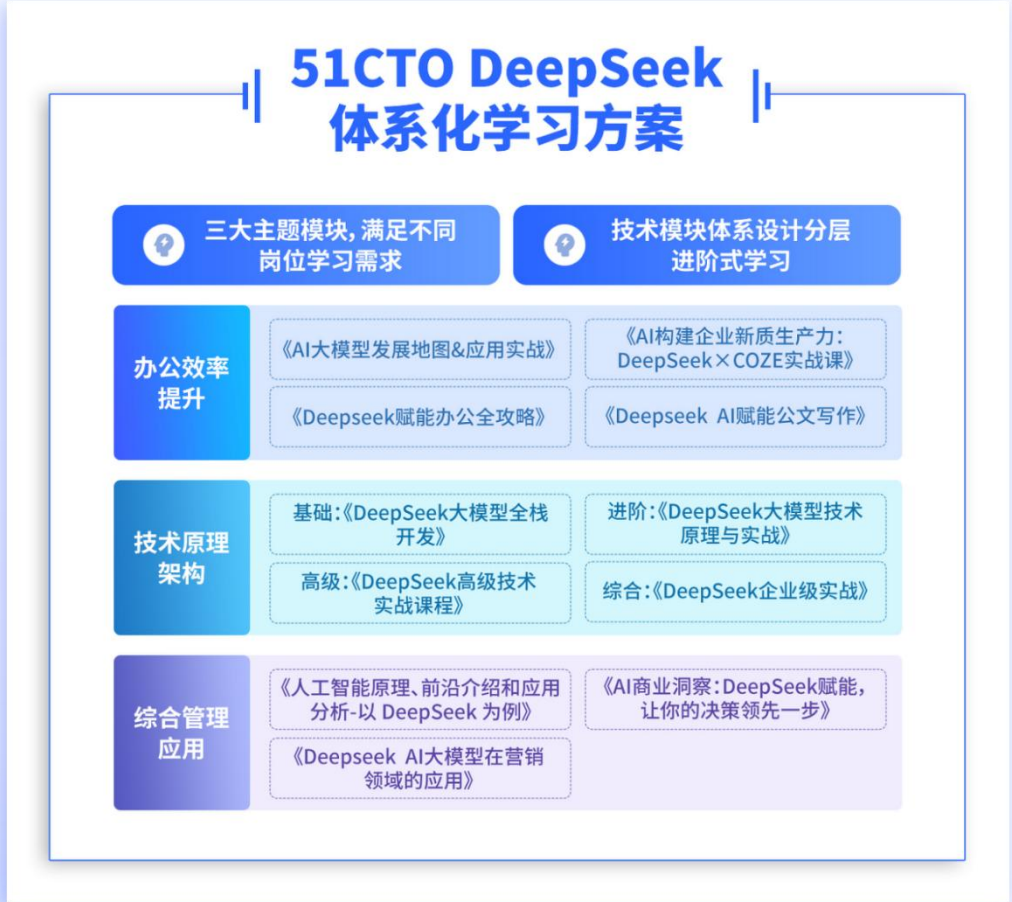
Visit the official website to delve into the latest research findings, access source code, and official prompt example libraries: https://www.deepseek.com

51CTO AI Zone

Get the latest news, practical articles, useful resources, and sharing by AI experts on Deepseek and AI in the 51CTO AI.x zone: https://ai.51cto.com

51CTO Online Courses - DeepSeek Zone

Over 200 courses with over 1,000 hours of AI (including Deepseek) themed videos for individual and corporate learning: https://b.51cto.com



DeepSeek systematic learning solution launched by 51CTO Enterprise Academy

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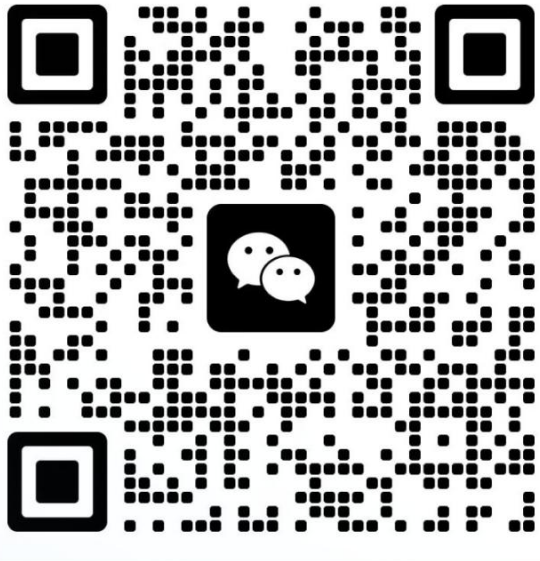

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