

Implementation of AI, for Future Network Architecture

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Abstract

Artificial Intelligence (AI) is change industry through permit smart computerization, analytical analytics, plus independent supervisory. When AI function suit extra data-intensive plus latency-sensitive, conventional system infrastructures features test inside behind huge statistics move, concurrent statement, plus circulated cleverness. Potential system tools such while 6G, Software-Defined Networking (SDN), system purpose Virtualization, edging work out[1], Quantum system, as well as AI-driven system organization be predictable toward participate a vital part inside allow next-generation AI scheme. This manuscript converses up-and-coming system knowledge, their architectures, use, settlement, tests, plus prospect study instructions.

Keywords: Conventional system, Potential system, Virtualization, Quantum system

I. Introduction

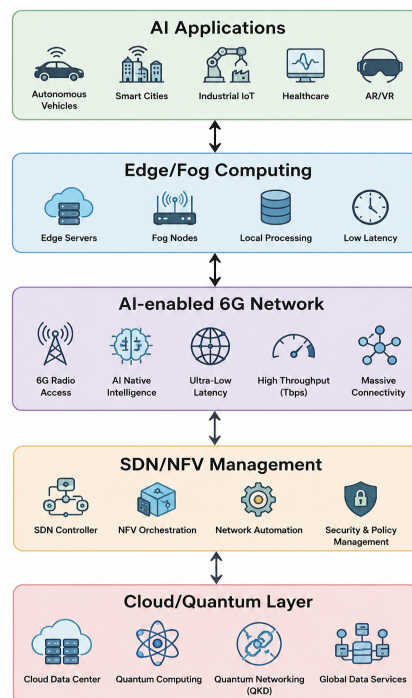
AI purpose such likes independent automobile, smart metropolis, engineering computerization, healthcare observing, plus smart moving scheme need: Ultra-low latency message allow immediate data program & quick reply for AI-driven request and mission-critical services. Elevated bandwidth connectivity supports the move of huge amount of information necessary by current AI scheme plus data-intensive submission. Substantial device connectivity permits a big figure of policy, sensors, and smart scheme to speak concurrently inside the system. Discrete figure possible during edging plus dispersed computer architectures [3][5] carry giving out possessions earlier to information cause, sinking setback and improving effectiveness. Elegant scheme group use AI-driven system managing method to optimize source portion, improve presentation, plus guarantee dependable system process. Conservative system cannot well feel these necessities. Upcoming system knowledge aim toward give intelligent, adaptive, plus scalable message infrastructures used for AI-driven ecosystem.

II. Requirement used for prospect system expertise & up-and-coming system knowledge into AI

The quick expansion of AI produces vast quantity of information need proficient program plus dispensation.

Prerequisite	Explanation
Small Latency	Synchronized AI management
Elevated Bandwidth	major records transmit
Scalability	Sustain billions of policy
Consistency	Constant examine accessibility
Safety	Shield beside imitation coercion

IV. Potential AI system Design



V. Results

The combination of AI by potential system tools has confirmed major perfection into arrangement show, Source use, safety, plus computerization. new lessons lying on AI-enabled 6G, edging figure, SDN[6], plus independent system illustrate assessable add in latency decrease, throughput improvement, power competence, plus clever managerial.

Routine consequences of AI-Based expectations system

Parameter	Traditional Networks	AI-Enabled Future Networks	Improvement
Latency	10–50 ms	< 1 ms (6G Target)	Up to 95% decrease
system Throughput	sensible	extremely elevated	30–60% increase
power effectiveness	set Optimization	Adaptive AI Optimization	20–40% funds
source consumption	standing portion	active share	35–50% growth
error recognition	physical observe	independent discovery	sooner reply
safety retort	immediate	analytical	better flexibility

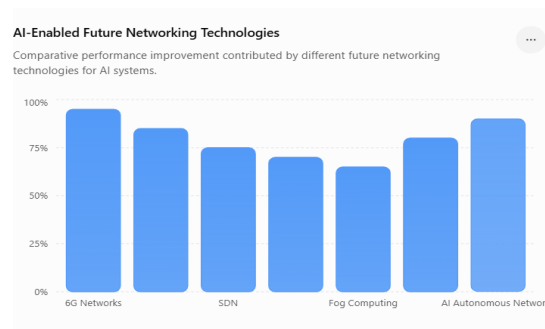
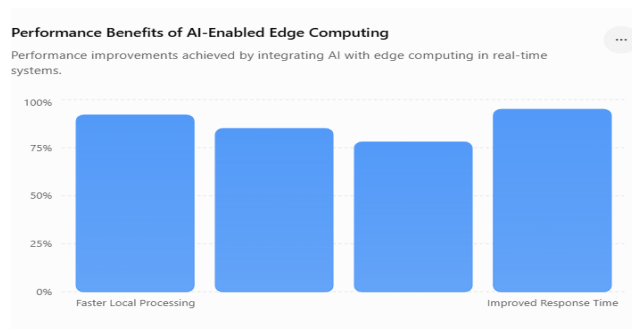
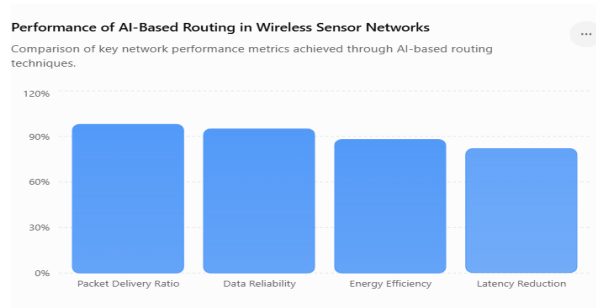
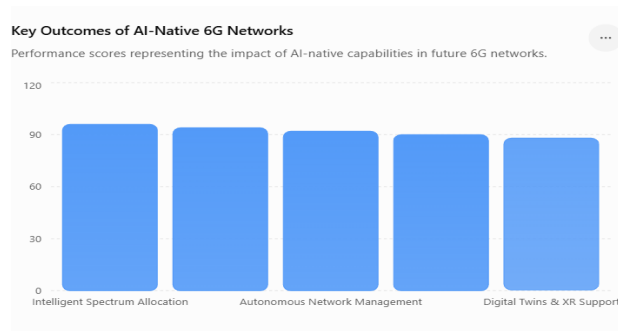
Results of AI-Based direction-finding

Routine Metric	Value (%)
Pack relief relation	98
Information dependability	95
Power effectiveness	88
Latency decrease	82

Results of Edging Aptitude

Benefit	Improvement (%)
Faster Local Data Processing	92
Reduced Cloud Dependency	85
Lower Communication Overhead	78
Improved Response Time	95

Results in AI-Native 6G systems



Key result	(%)	Advantage
Smart range share	96	Capable range use plus summary intervention
Self-Optimizing broadcasting contact system	94	Routine set-up change plus optimization
Independent system organization	92	Summary being involvement & ready expenses
Concurrent check Orchestration	90	Quicker check provisioning & source part
Better carry used for Digital Twins & XR	88	Better immersive occurrence & practical imitation

VI. Conclusion

Prospective system capabilities decide figure the support of next-generation AI system. Expertise such as 6G, SDN, NFV, edging figure, Fog figure, Quantum system[8], & AI-driven independent system resolve facilitate sooner, extra smart, protected, & scalable message infrastructures. The combination of AI & better scheme ability determine add to speed advance in healthcare, moving, elegant metropolis, engineering computerization, plus many additional areas. Constant study is necessary to talk to tests connected to safety, scalability, interoperability[10], and power competence.

VII. References

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