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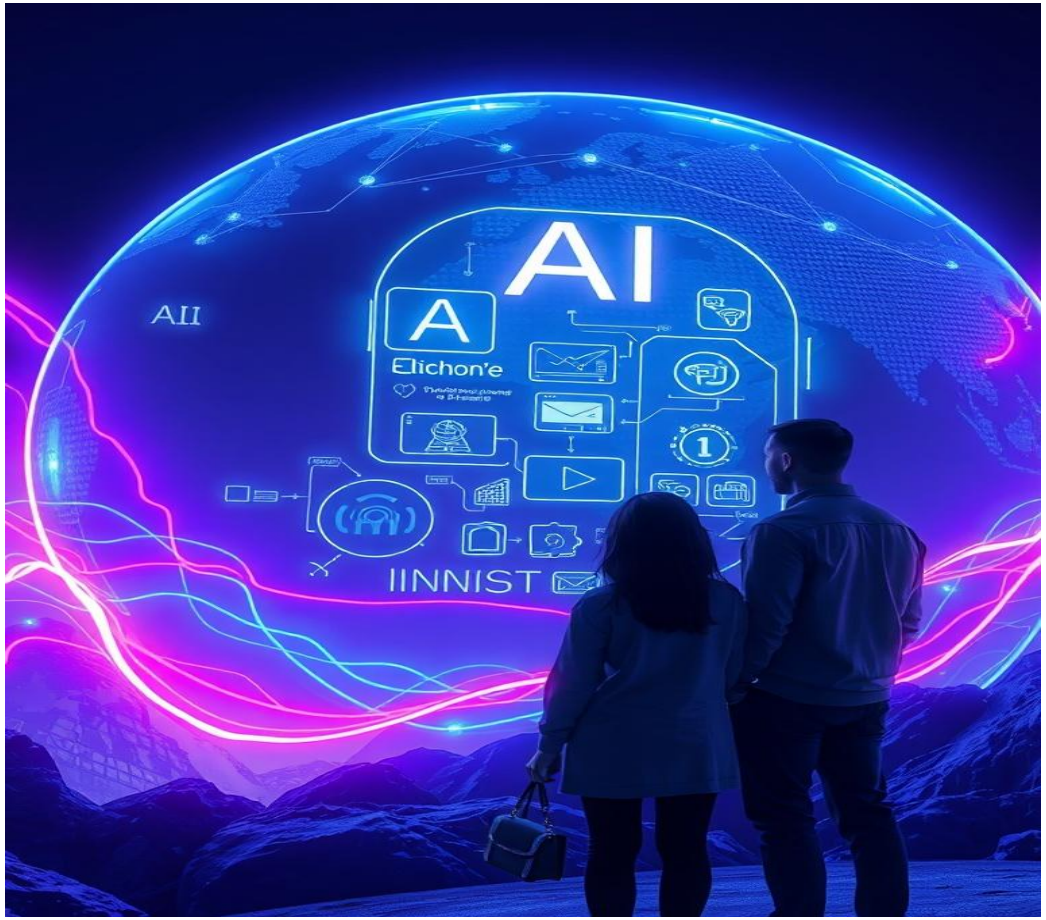
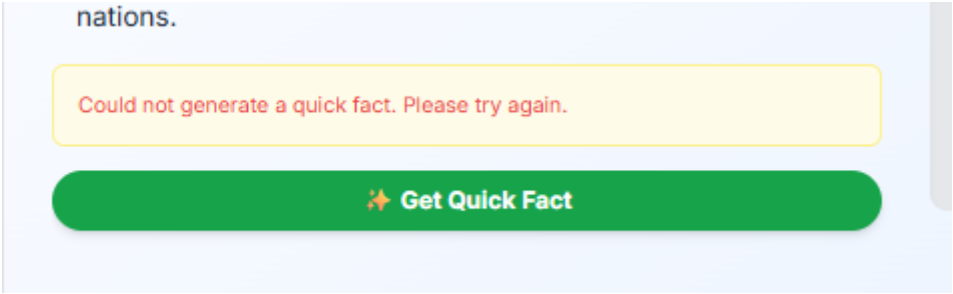
Generative AI's Impact on Work

Exploring the Shift in Work Dynamics

The Dual Edge: AI's Global Impact on Work



- Artificial Intelligence is a general-purpose technology poised to fundamentally restructure the global economy. This transformation presents a dual challenge: immense productivity gains and the unprecedented risk of job displacement, particularly in white-collar roles.
- **40% Global Job Exposure:** The IMF estimates nearly 40% of global employment is exposed to AI.
- **Advanced Economies at Higher Risk:** Up to 60% of jobs in developed nations are exposed, though often through *augmentation* rather than pure replacement.
- **Productivity vs. Inequality:** AI is expected to boost global growth but also worsen income inequality between and within nations.



Job Displacement Hotspots: Routine Automation

Unlike previous automation waves that primarily targeted manual labor, modern generative AI is disrupting **knowledge work** and routine administrative tasks.

Clerical & Admin: Roles like bank tellers, data entry clerks, and **secretaries are highly exposed, with some reports showing a high risk of automation.**

Customer Service: Chatbots and virtual assistants can handle up to 80% of routine customer inquiries, **leading to a decline in call center agent demand.**

Finance & Legal Support: **AI algorithms excel at transaction processing, risk assessment, and legal document review,** automating tasks traditionally performed by paralegals and credit analysts.

Manufacturing: Automation continues; **industrial robots account for over 44% of repetitive manufacturing tasks worldwide.**

Job Change Distribution

AI innovations will lead to 50% job creation in new sectors. 30% of jobs may be lost due to automation, while 20% will transform to adapt to advancing technologies. The rise of AI is not just about new technology; it's about a fundamental shift in the job market. While headlines often focus on job loss, the reality is more nuanced, involving creation, displacement, and transformation. Here's a detailed look at the changing landscape:

Job Change Distribution

50% Job Creation in New Sectors

AI is a powerful engine for innovation, creating roles that don't exist today. This includes positions like AI trainers, ethics officers, data validation specialists, and autonomous vehicle fleet managers. This statistic highlights that nearly half of the impact of AI could be in generating entirely new categories of work that leverage human creativity, critical thinking, and oversight in partnership with intelligent systems.

Description details for affection of job tasks from AI

- **Job Transformation (28%):** Many jobs won't disappear, but they will change. People will start using AI as a tool to help with their work, which means they will need to learn new skills.

- **Job Displacement (39%):** A significant number of jobs with repetitive tasks may be automated. This will require workers in those roles to transition to the new or transformed jobs that AI helps create.
- Website links

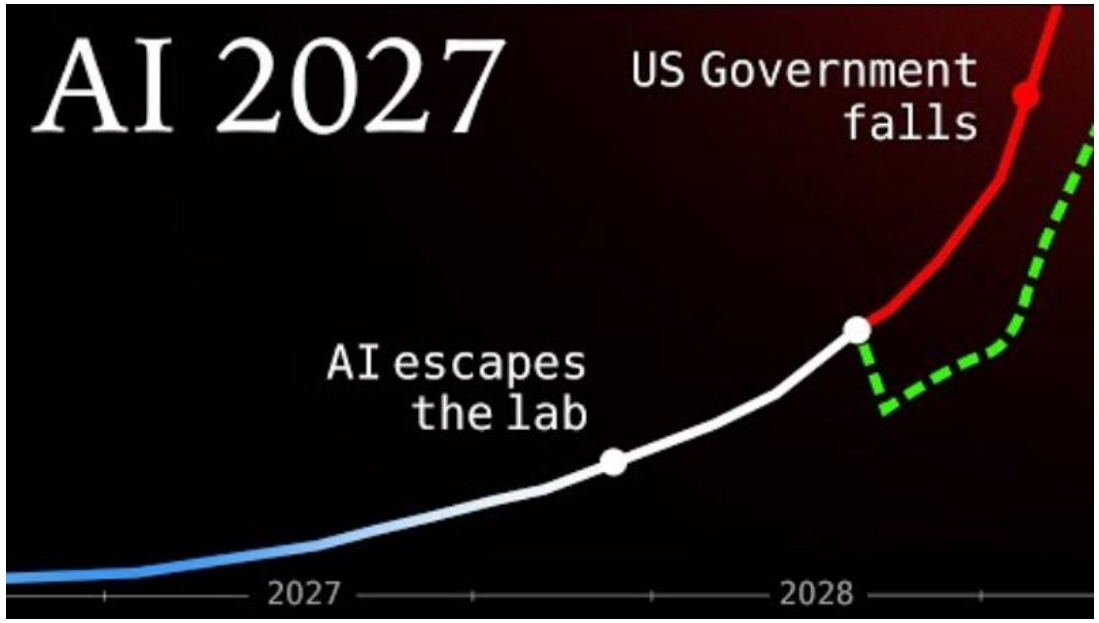
McKinsey & Company - The Future of Work

World Economic Forum - Future of Jobs

Goldman Sachs - AI's Economic Impact

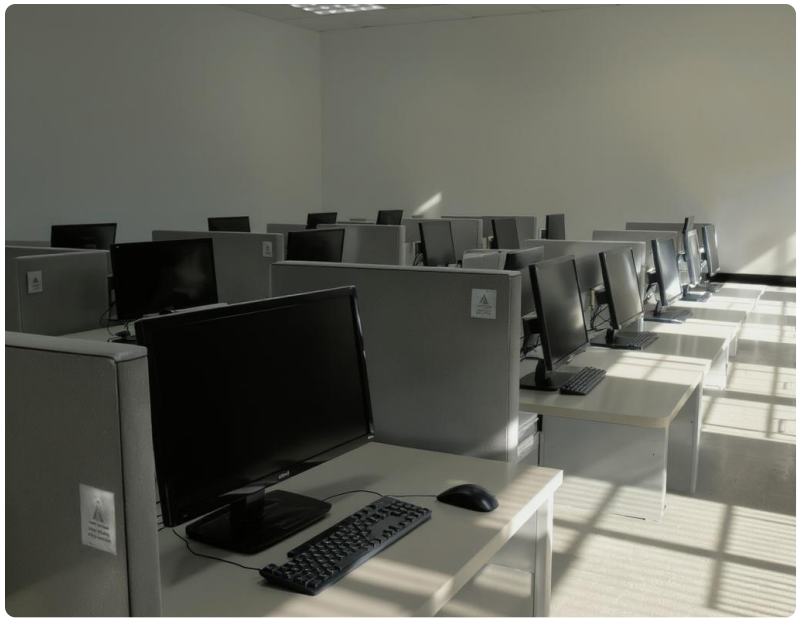
The Augmentation Effect: New Roles and Skills

- Disruption is balanced by creation. The World Economic Forum predicts 97 million new roles may emerge globally, driven by the need to develop, manage, and audit AI systems.
- **Prompt Engineer:** Specialists who craft and optimize inputs to achieve precise outputs from AI models.
- **AI Ethics Specialist:** Professionals who ensure AI systems are fair, transparent, and aligned with human values and regulations.
- **AI Solution Architect:** Experts who bridge business needs with technical AI deployment, managing integration into existing workflows.
- **High Demand for 'Human' Skills:** Jobs requiring high empathy, critical human interaction, and physical dexterity remain low-risk (e.g., Nurse Practitioners, Therapists, Skilled Trades).



Job Impact

What kind of job details are getting worsened effects from AI?



High Risk: Clerical and Administrative Roles

Jobs like bank tellers, data entry clerks, and secretaries are highly exposed to AI automation, as these roles involve repetitive and routine tasks that AI can perform faster and more accurately.

Customer Service and Legal Support Disruption

AI chatbots handle up to 80% of routine customer inquiries, reducing call center jobs. AI also automates tasks like legal document review and transaction processing, impacting paralegals and credit analysts.

Opportunities

Potential to get recruitment of new job offers related to AI tasks, even not majored

AI Jobs for Non-Majors

Many new AI-related roles like AI trainers, data annotators, and prompt engineers require skills that can be learned on the job or through short-term training, not necessarily a formal AI degree.

Upskilling & Reskilling

Online courses, bootcamps, and corporate training programs enable workers from various fields to transition into AI-related jobs, expanding recruitment beyond traditional AI specialists.

The Wage Premium & Economic Disparity

- AI is creating a significant economic divide: workers who *use* AI are becoming dramatically more valuable than those who don't or can't adapt.
- **56% Wage Premium:** Workers who possess AI skills (like prompt engineering) command significantly higher wages compared to colleagues in the same role without those skills (PwC data).
- **Industry Revenue Growth:** Industries most exposed to AI are seeing up to 3x higher growth in revenue per worker.
- **Gender Disparity:** Studies suggest that women are at a higher risk of job insecurity from AI (especially in clerical/admin roles), making retraining initiatives critical for gender equity.

AI Globalization Summary

Our Vision

Transform Busan into a world-leading AI-driven smart port by launching the "BP-AI Global" platform as the global standard in maritime logistics, boosting efficiency, security, and sustainability.

Challenges in Port Operations

- - Congestion: Delays caused by ships, cranes, and trucks leading to operational bottlenecks.
- - Inefficiency: Elevated costs, slow turnaround times, and limited automation reduce productivity.
- - Security: **Complex operations present challenges in monitoring and ensuring safety.**
- - Environment: Need for emission reduction and addressing ecological impacts of port activities.

The Solution: The "BP-AI Global" Platform

- AI Operations Control Tower: **Real-time scheduling optimization for ships, cranes, trucks**; maximizes throughput, minimizes delays.
- Predictive Maintenance Engine: **Analyzes data to prevent failures and downtime.**
- Automated & Autonomous Operations: Enables 24/7 port activity, boosts efficiency, enhances safety.
- Intelligent Customs & Security: AI-driven clearance acceleration and threat detection.
- Green Port Sustainability Module: **Reduces carbon emissions and environmental impact.**

The Globalization Strategy

A Three-Phased Approach to Global Leadership

Phase 1: Perfect the Model (Years 1-3)
Implement: Fully deploy the AI platform across Busan Port.
Showcase: Create a "Living Lab" to demonstrate proven results to international partners.
Quantify: **Document every efficiency gain and cost saving** to build a powerful business case.

Strategy

Standardize, Partner, and Expand: Building the Global Data Standard

Form Alliances

Lead a 'Smart Port Alliance' with major ports to create a universal data standard.

Build Partnerships

Collaborate with global tech companies for scalable, secure cloud deployment.

Modularize Platform

Package the platform into standalone products for easier adoption by other ports.

Commercialize & Expand

License the platform as PaaS, offer consulting, and establish regional hubs in Europe and North America.

The rest of AI’s great potentials

Potentials

The rest of AI’s great potentials

3D Inspection & Data Annotation

3D inspection improves quality control with precise spatial analysis, while data annotation fuels AI learning by labeling vast datasets for accuracy.

Edge Computing & Data-centric AI

Edge computing enables real-time AI processing near data sources, reducing latency; data-centric AI focuses on improving data quality for smarter AI outcomes.

Image Analysis, NLP & Augmented Reality

Image analysis and NLP empower AI to understand visual and textual data, while augmented reality enhances user experience with interactive overlays across industries.

Limitation of AI Jobs to Be Replaced

Complex Human Judgment

Jobs involving nuanced decision-making and ethical considerations, like AI ethics specialists and solution architects, cannot be fully replaced by AI.

Emotional Intelligence

Roles demanding empathy and human interaction, such as nurses and therapists, are low risk for automation despite AI advances.

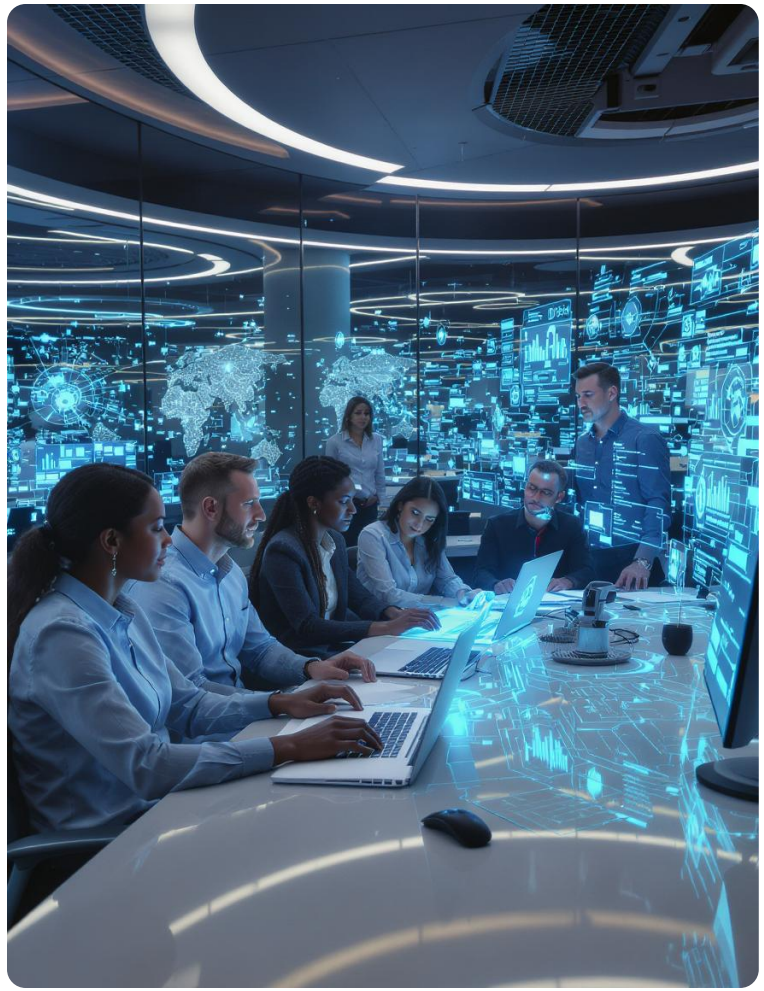
Creative & Strategic Work

Creative professionals and strategic planners leverage human creativity and foresight, skills AI cannot replicate effectively yet.

Physical Dexterity & Skilled Trades

Jobs requiring fine motor skills and physical adaptability, like skilled trades and technicians, remain difficult for AI to automate.

Solution for this limitation of AI jobs



01 Human-Centered Roles

Roles requiring empathy, nuanced decision-making, and emotional intelligence remain beyond AI's full automation capabilities, creating opportunities in healthcare, counseling, and personalized services.

02 Creative & Strategic Work

Creative professionals and strategic planners use imagination, foresight, and ethical judgment to drive innovation, guiding AI tools rather than competing with them.

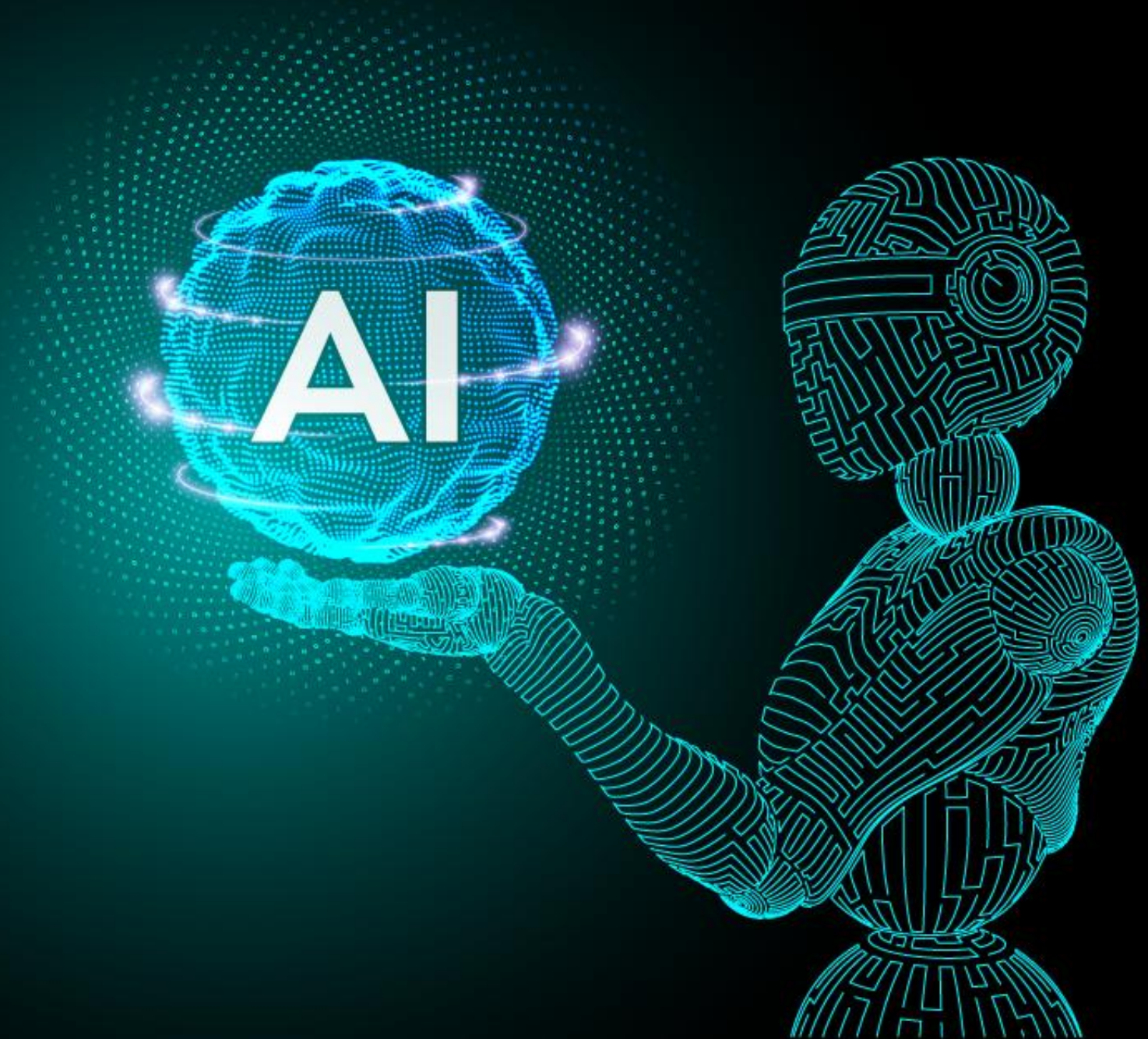
03 Skilled Trades & Physical Dexterity

Hands-on roles such as electricians, technicians, and surgeons combine fine motor skills with digital literacy, making them difficult to automate and critical to maintain physical-digital systems.

04 AI-Human Collaboration

Hybrid roles like AI ethics specialists and solution architects ensure ethical, effective AI integration, designing workflows where human insight complements AI's strength for superior outcomes.

The Future Of Artificial Intelligence



Future

The future of AI

- AI-driven job creation will grow, with new roles like AI trainers, ethics specialists, and solution architects emerging.
- Many current jobs will be transformed as AI becomes a tool for augmenting human skills rather than replacing workers outright.
- Human skills such as creativity, empathy, ethical judgment, and complex decision-making will be increasingly valuable.
- AI adoption will require ongoing upskilling and reskilling initiatives to bridge skill gaps and promote inclusive economic growth.
- Ethical AI development and human-AI collaboration will be critical to maximize benefits and mitigate risks of displacement.

While automation may replace certain jobs, most will evolve to incorporate AI as a collaborative tool that boosts human productivity. Jobs requiring emotional intelligence, ethical judgment, and nuanced understanding remain irreplaceable by machines. This integration promises increased productivity and inclusive economic growth, contingent on supportive education and workforce policies.

Conclusion

Artificial Intelligence is transforming the workforce by automating routine tasks, which changes many jobs instead of completely replacing them. This shift opens opportunities for roles that emphasize creativity, empathy, critical thinking, and complex decision-making—skills uniquely human. Continuous upskilling and reskilling are crucial for workers to stay relevant and thrive alongside AI advancements.

Thank You