

# Applied AI

# INFORMATION TECHNOLOGY

07.24



## WHY AI?

01

- Efficiency in data processing.
- Enhanced cybersecurity measures.
- Innovation in software development.
- Improved user experience.
- Automation of routine tasks.

## INDUSTRY

02

- Software Development
- Hardware Manufacturing
- Cloud Computing
- Cybersecurity
- Data Analytics

## STRATEGIC TRENDS

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- Cloud migration
- Edge computing
- Quantum computing
- AI-driven development
- IoT expansion
- Cybersecurity fortification
- Blockchain for security
- Sustainable computing
- Remote work technologies
- 5G deployment

## WHY CHANGE?

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- Rapid tech advancement
- Increasing cyber threats
- Data explosion
- Remote work rise
- Sustainability demand

## LEADING COMPANIES

05

- Microsoft
- Google
- Amazon Web Services
- IBM
- Oracle
- SAP
- Cisco
- Salesforce
- VMware
- Adobe

## ENABLING TECHNOLOGIES

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- AI in software testing
- Cloud-native technologies
- Blockchain for data integrity
- IoT in network management
- Machine learning in analytics
- Cybersecurity AI algorithms
- Virtual reality for training
- 5G networks
- Quantum computing research
- Robotics process automation

## AI DISRUPTION

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- Automated code generation
- AI in network security
- Predictive analytics for IT operations
- Virtual assistants for technical support
- Smart algorithms for data management
- AI-driven UI/UX design
- Chatbots for customer service
- AI for hardware optimization
- Natural language processing for documentation
- Machine learning for system maintenance

## GREAT EXAMPLES OF AI

08

- IBM's Watson for business analytics
- Google AI for search optimization
- Amazon Alexa for voice services
- Salesforce Einstein for CRM
- Adobe Sensei for creative cloud
- Microsoft Cortana for productivity
- Oracle's AI-driven database services
- Cisco's predictive network analytics
- SAP Leonardo for digital innovation
- VMware's AI-driven data center management

## ECOSYSTEM REQUIREMENTS

09

- High-speed internet access
- Cloud infrastructure
- Skilled AI workforce
- Strong cybersecurity measures
- Collaborative tech community

## NEW RISKS

10

- AI bias
- Cybersecurity vulnerabilities
- Data privacy issues
- Technological unemployment
- Dependence on technology

## MISUSE

- AI-generated phishing emails
- Deepfake videos for misinformation
- Unauthorized data analysis
- Automated cyber attacks
- AI bias in decision-making

11

## DILEMMAS

- AI decision-making vs human oversight?
- Privacy or innovation?
- How to manage AI-generated content?

12

## ORG. REQUIREMENTS

- Continuous AI and tech training
- Ethical AI guidelines
- Data governance frameworks
- Cybersecurity protocols
- Innovation-friendly policies

13

14

## STEP BY STEP AI

- Assess AI readiness
- Train team in AI basics
- Implement AI in small projects
- Scale AI solutions gradually
- Monitor, evaluate, and adapt

## BEST PRACTICES

- Start small with AI projects
- Focus on data quality
- Prioritize cybersecurity
- Foster a culture of innovation
- Engage with AI community

15

16

## AI MODELS

- Neural networks for data analysis
- Decision trees for troubleshooting
- Reinforcement learning for system optimization
- Generative adversarial networks for testing
- Regression analysis for trends prediction

## DIGITAL TWINS

- Digital twins for network systems
- Virtual models of data centers
- Simulation of cloud environments
- AI replicas for cybersecurity training
- Digital twins of IoT networks

17

18

## GLOBAL LEADERS

- United States: Silicon Valley giants & cloud computing.
- China: Massive e-commerce platforms, AI development.
- India: IT services, software development powerhouses.
- Israel: Cybersecurity and startup innovation hub.
- Germany: Strong in software engineering, IoT.

## FUTURE JOBS

- AI system ethicist
- Data privacy officer
- AI-enhanced cybersecurity analyst
- Cloud solution architect
- Quantum computing researcher

19

20

## THE FUTURE OF AI

- Autonomous IT operations
- AI in software development
- Quantum computing breakthroughs
- AI for cybersecurity defense
- Sustainable IT solutions

## RECOMMENDED READING

- "Life 3.0" by Max Tegmark
- "AI Superpowers" by Kai-Fu Lee
- "The Master Algorithm" by Pedro Domingos
- "Weapons of Math Destruction" by Cathy O'Neil
- "Superintelligence" by Nick Bostrom

21

22

## TED TALKS

- "AI's Humanitarian Potential" - Kai-Fu Lee
- "Computers Learning" - Jeremy Howard
- "When Computers Outsmart Us" - Nick Bostrom
- "Teaching Computers to See" - Fei-Fei Li
- "Questioning Big Data" - Cathy O'Neil

## ONLINE RESOURCES

- CIO: Strategic insights on IT leadership.
- TechCrunch: Technology news, startups & IT consulting.
- Gartner: In-depth IT research and trends.
- Wired: Broader technology trends including IT.
- InformationWeek: IT news business tech professionals.

23

24

## NEXT STEPS

- Engage with AI technology.
- Identify opportunities for AI application.
- Invest in AI education and training.
- Please contact us at [hello@nextpaper.me](mailto:hello@nextpaper.me) for further exploration or inspiration through a [talk](#), [workshop](#) or [case study](#). We'd love to help!



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