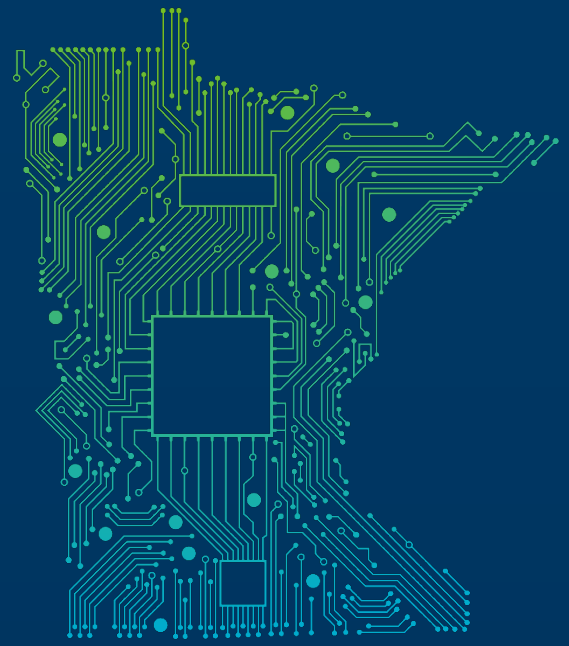
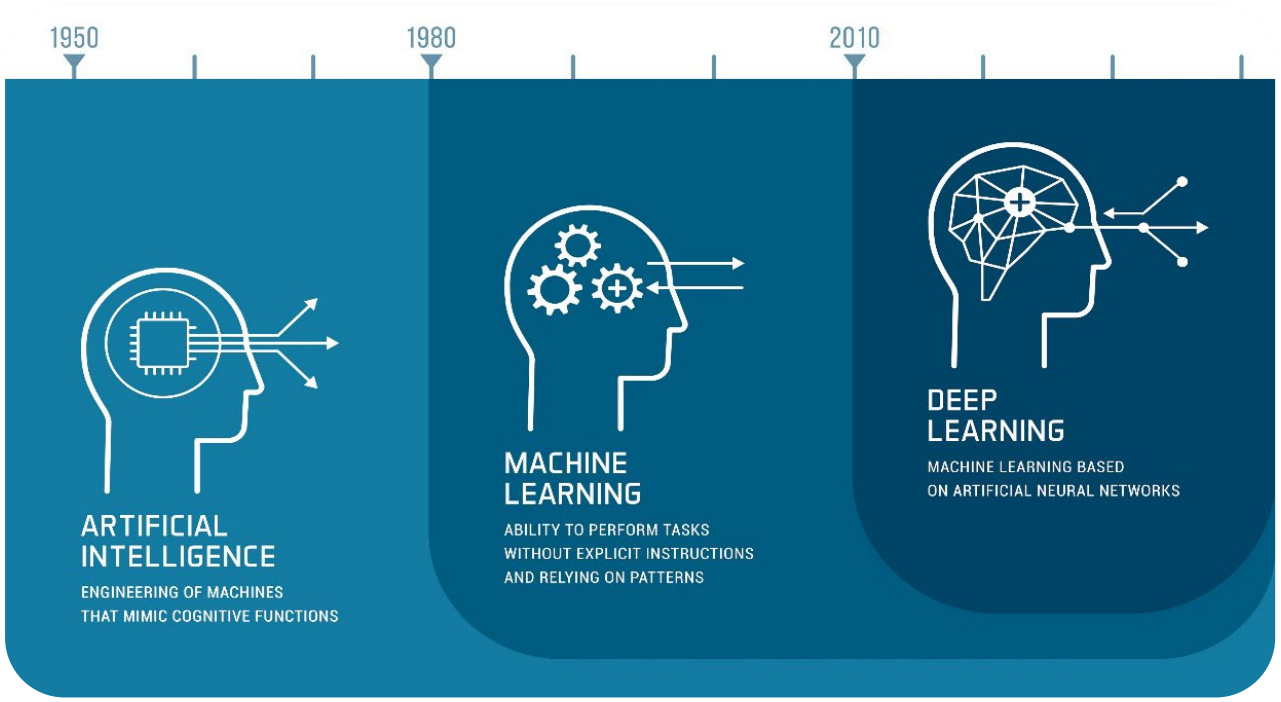


Leveraging Artificial Intelligence Responsibly for State Government

Tarek Tomes | Commissioner and State Chief Information Officer

MINNESOTA IT SERVICES

Artificial Intelligence (AI) Evolution



Evolution of AI:

1950s – early artificial intelligence stirs excitement.

1980s – machine learning beings to flourish.

2010s – deep learning breakthroughs drive AI boom.

2020s – wide use of AI/ML tools in everyday life.

Artificial Intelligence (AI) – simulation of human intelligence processes by computer systems. If an application can independently perform tasks that would otherwise require human intelligence, like understanding natural language, recognizing patterns, making decisions, or interpreting complex data, it likely uses AI. Chatbots, autocomplete, mapping and logistics modeling are practical applications of AI.

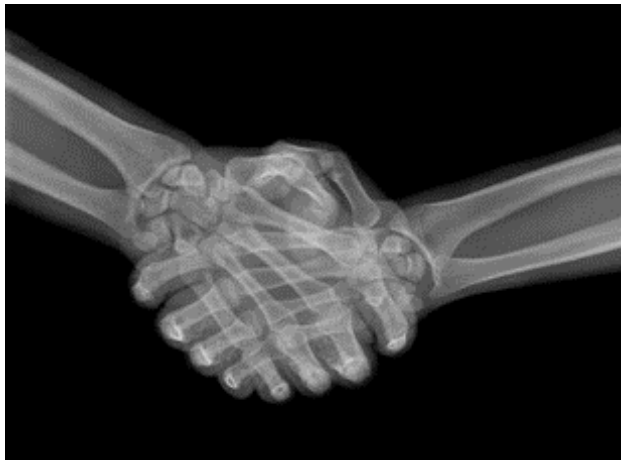
Machine Learning (ML) – a subset of AI, machine learning enable machines to analyze data and information, and to mature that analysis, without specific programming instructions. Fraud detection, financial analytics, and security threat detection are all practical applications of machine learning.

Deep Learning – a subset of machine learning that enables computers to recognize complex patterns in data. Self-driving cars and virtual assistants are examples of deep learning in practice.

Prevalence of AI in Daily Life

We have become accustomed to AI/ML tools in our everyday lives.

- **Voice Assistants**: Siri, Alexa, and Google Assistant responding to voice commands.
- **Online Recommendations**: Netflix movie suggestions, Spotify music recommendations, and Amazon product suggestions.
- **Social Media Features**: Facebook's friend-tagging suggestions in photos and TikTok's video feed recommendations.
- **Smartphone Features**: Face unlock, photo categorization, and predictive text typing.
- **Health Diagnostics**: Tools that help doctors diagnose diseases from medical images.
- **Self-Driving Features**: autopilot and other car safety features like automatic braking and lane assist.
- **More**…



AI Benefits and Use Cases

Increasing productivity

- AI users are **29%** faster in a series of tasks (searching, writing, and summarizing).
- **85%** of users said AI assistants accelerate writing first drafts.
- **55%** increase in productivity for programmers and code developers leading to faster delivery to market.

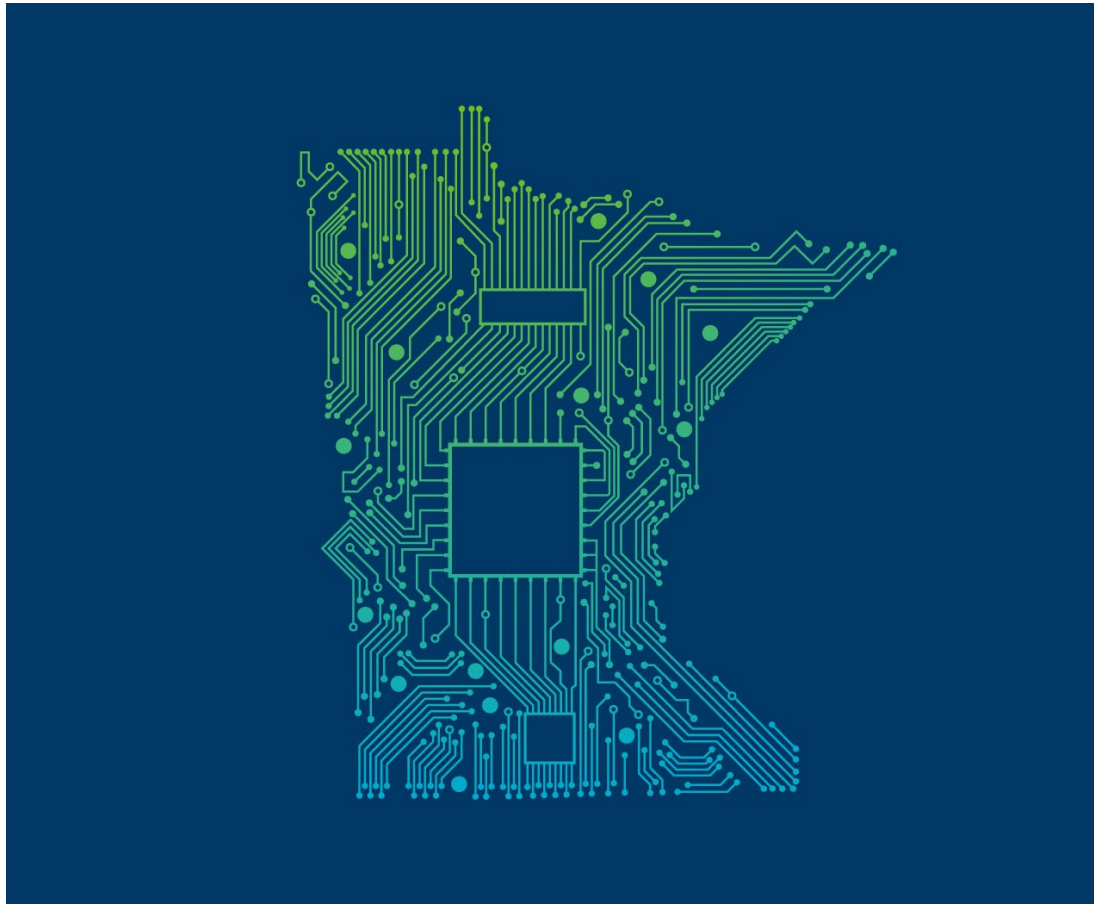
Improved data analysis

- AI users can find insights and predict key outcomes in complex datasets to empower and support decision-makers.
- Improve products for customers by modeling customer research.

Risk-based AI Analysis

	AI-Enabled Systems	Examples
Level 1 Basic Assistance	People **access** basic AI assistance tools that provide simple suggestions and automation.	Chatbots to fix Internet service; customer service; or order pizza, Siri, Alexa, Google Assistant, etc…
Level 2 Partial Automation	People **collaborate** with AI-enabled services that provide complex responses and automation suggestions. People have full responsibility for decision-making.	ChatGPT, Copilot, Bard (now Gemini), Perplexity, Grammarly
Level 3 Conditional Automation	People **supervise** semi-autonomous AI services operating within predefined parameters. Person is responsible for overseeing proper operation.	Vehicle safety features such as lane assist or adaptive cruise control, smart home security systems
Level 4 High Automation	People **allow** AI tools to make decisions and execute tasks. User only intervenes when events are outside normal operating conditions.	Radiology support systems, autonomous delivery robots, agriculture robots for planting, weeding, harvesting, etc.
Level 5 Full Automation	People **trust** AI systems to operate without oversight or need for intervention.	Automated financial transactions, fully autonomous vehicles, smart grid energy management systems

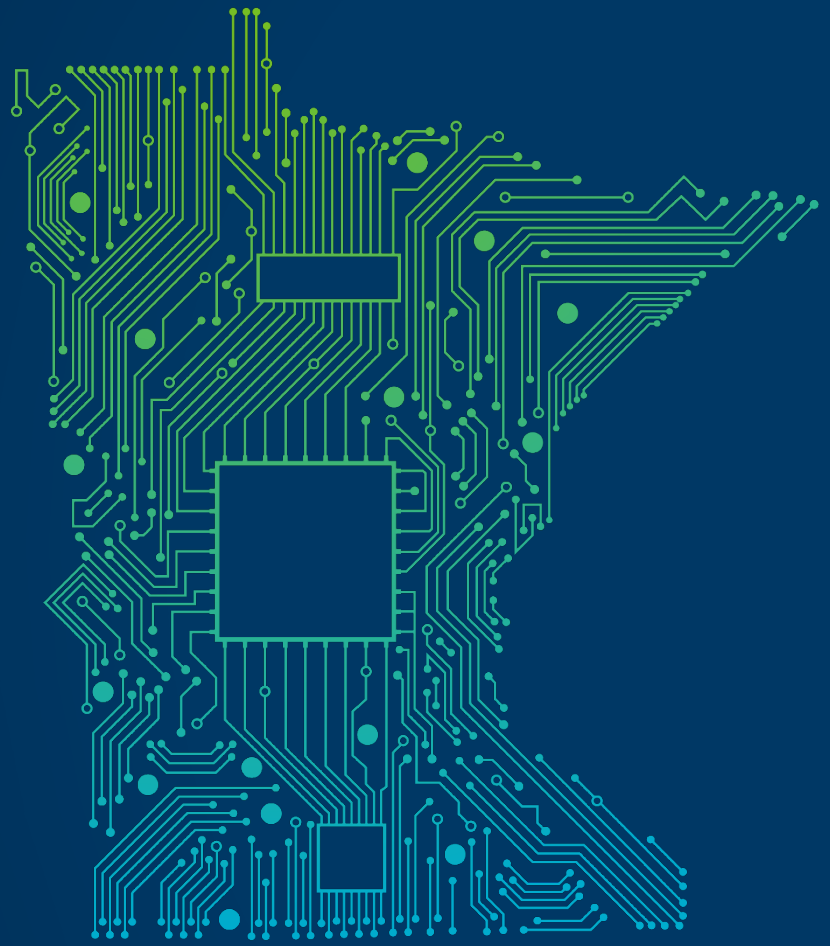
Transparent Artificial Intelligence Governance Alliance (TAIGA)



TAIGA enables MNIT and state agencies to manage and leverage AI tools, challenges, and opportunities.

Collaboration:

- Integrating into existing governance processes.
- Coordinating with Technology Advisory Council (TAC) AI subcommittee.
- Launching AI Champions Team.
- State employee learning sessions.



TAIGA Vision

MNIT AI Vision:
"MNIT embraces the transformative potential of AI and automation. We will seek to responsibly incorporate these technologies into the fabric of government operations, creating efficient, equitable, and innovative services that benefit every Minnesotan."


Policy &
Standards
Guiding Principles
& Guardrails
TAIGA
Governance
Framework
Governance & Partnership

Public AI Security Standard

- Balance benefits and risk.
- Consult subject matter experts.
- Protect non-public information.
- Sample use cases.
- Compliance with applicable laws.
- Roles and responsibilities.

MINNESOTA IT SERVICES

Public Artificial Intelligence Services Security Standard

From the Office of the Chief Information Officer, State of Minnesota

Version: 1.0
Effective Date: 10/18/2023
Approval Signature: _____ **Date:** 10/18/2023
John Israel, Chief Information Security Officer

Purpose

The purpose of this standard is to provide requirements and establish a framework for the responsible use of public web services enhanced by Artificial Intelligence (AI) (referred to in this standard as AI-enhanced services) for individual work tasks by State of Minnesota employees, volunteers, and contractors. It aims to guide employees, volunteers, and contractors on how to use publicly available AI-enhanced services such as Bing, Bard, and ChatGPT responsibly in a manner that:

- adheres to legal and regulatory requirements,
- balances confidence and skepticism,
- delivers value and benefits to Minnesotans, and
- secures protected information and data.

This document does not cover standards being developed to guide the acquisition, creation, or use of AI tools beyond individual work tasks like writing, editing, researching, or other duties that improve employee productivity. Information on those standards will be made available later.

Background

AI refers to the simulation of human intelligence processes by computer systems. If an application can independently perform tasks that would otherwise require human intelligence, such as understanding natural language, recognizing patterns, making decisions, or interpreting complex data, it likely uses AI.

AI-enhanced services have been used by organizations for many years. However, new large language model (LLM) AI-enhanced services that are on the Internet and embedded into tools such as Microsoft 365, and GitHub, create the need for new governance to use these tools responsibly. This standard refers primarily to these new services.

Artificial Intelligence Personal Productivity Security Standard 1

MNIT AI Guiding Principles

- Accountability, Efficiency, and Transparency
- Equity and Inclusivity
- Beneficial and User-Centered Services
- Adaptability and Innovation
- Privacy and Security
- Collaboration and Partnership
- Workforce Empowerment
- Sustainability and Environmental Focus

TAIGA Website

AI Governance for State Agencies in Minnesota

- Facilitate a review process that ensures AI is implemented in an ethical and responsible manner that benefits Minnesotans
- Develop a clearinghouse for AI-related processes, record keeping, and training
- Provide standards, education, and support for State of MN employees working with AI technologies
- Integrate AI awareness into technology evaluation and procurement processes

MINNESOTA IT SERVICES

TECHNOLOGY ADVISORY COUNCIL

Technology Advisory Council – Artificial Intelligence

Rick King & Lee Ho

TAC Statute, Mission, Purpose

- Minnesota Statute 16E.036 – Advisory Council
- Advise Governor, Executive Branch, and State CIO
- Help state agencies unlock the full potential of technology to serve Minnesotans and businesses – efficiently, securely, and sustainably

About the Technology Advisory Council (TAC)

History

- Meeting since 2021 (reports in 2023 and 2024)
- Successor to Blue Ribbon Council on Information Technology

Membership

- 15 members appointed by Governor:
  - 6 state agency strategic planning leaders
  - 6 experts with academic, public, or private-sector experience
  - 3 stakeholder representatives (counties, state employee union, private business)
- 4 Legislators selected by House/Senate leadership

TAC Organization

Works in Subcommittees:

- Artificial Intelligence (2024)
- Cybersecurity
- Project to Product
- User Experience/Self-Service
- Sustainable Funding (2021-23)

Engages with:

- Governor’s Office
- Legislators
- Minnesota IT Services
- Key state agencies and CIOs
- Local/County governments
- Private sector and academia

Current Members

Private Sector

- TCF Bank (Now Huntington)
- Delta Air Lines
- Medtronic
- Federal Reserve Bank of Minneapolis
- Thomson Reuters
- Clockwork Consulting

State Agencies:

- DEED
- DNR
- DOR
- DPS
- MMB
- Union member

Legislators:

- Sen. Melissa Wiklund
- Sen. Mark Koran
- Rep. Kristin Bahner
- Rep. Jim Nash

Local Governments:

- League of MN Cities
- Association of MN Counties

A Wider Partnerships

Partnerships across state government and private sector

- Other legislators with interest/knowledge in IT
- MNIT commissioner, deputy commissioner, and legislative director
- MNIT technology leaders for state agencies
- Agency leaders and staff
- IT and thought leaders from tech vendors, research firms, and academia

Selected TAC Accomplishments to Date

- Cybersecurity – defining IT as critical infrastructure
  - Legislative Commission on Cybersecurity
- Customer – focused opportunities in state services
  - User experience
- Product management of IT and digital services
- Modernization playbook
- Enhanced procurement process for IT acquisitions
- Elevate the need for ongoing IT funding needs

TAC Interest in AI

Heightened interest in AI

- Launch of mass-market AI tools (2022-2023)
- TAC presentation by Thomson Reuters (2023)
- TAC presentation on AI tech and usability development (2023)
- MNIT briefing on enterprise AI policy development (2023)

Formation of TAC AI Subcommittee

Clear relevance of AI for state government and partners

- Potential to increase efficiency and best-serve needs of Minnesotans
- Need for guidelines to foster responsible use

AI subcommittee formed (December 2023)

- Focus: education, opportunities, responsible use of AI

Subcommittee Membership, Other Participants

Co-Chairs:

- Tom Butterfield
- Lee Ho

Members:

- Timothy Lynaugh, DPS
- Rep. Jim Nash
- Evan Rowe, DEED
- Theresa Wise

Participants:

- Other TAC Members/Partners
- MNIT
- Legislators
- Office of the Legislative Auditor

Subcommittee Feedback Session

What we heard from members/participants:

- Education/Shared Understanding
- Accountability/Governance
  - Guidelines on how to deploy tools
  - What decisions can AI make?
  - How do we avoid bad data?
- Now is time for these conversations
- AI to improve government services
  - Improve efficiency, citizen experience
  - Make it easier to deliver services
- Explore opportunities

Immediate Subcommittee Focus

- Tracking and monitoring evolving body of knowledge and capabilities of AI
- Developing common understanding of AI
- Building knowledge about AI, AI tools, and best practices
- Identifying future topics for policy and usage guidance and recommendations

Recent and Upcoming Activities

Focus on Education

- Gartner presentation to AI subcommittee (January)
- MNIT update on current/future state of AI in state government (February)
- Learning about how other organizations are approaching AI (future)

Ongoing/Future Goals

- Keeping pace with AI technological change.
- Develop common understanding of AI concepts and methods.
- Provide guidance and recommendations to the TAC to support agency use of AI tools and applications.
- Coordination with TAC Subcommittees on Cybersecurity, User Experience

MINNESOTA IT SERVICES

Thank You!