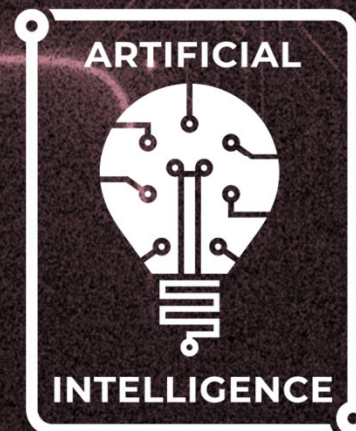


AI & Data Protection Opportunities, Challenges, and New Mexico's Path Forward

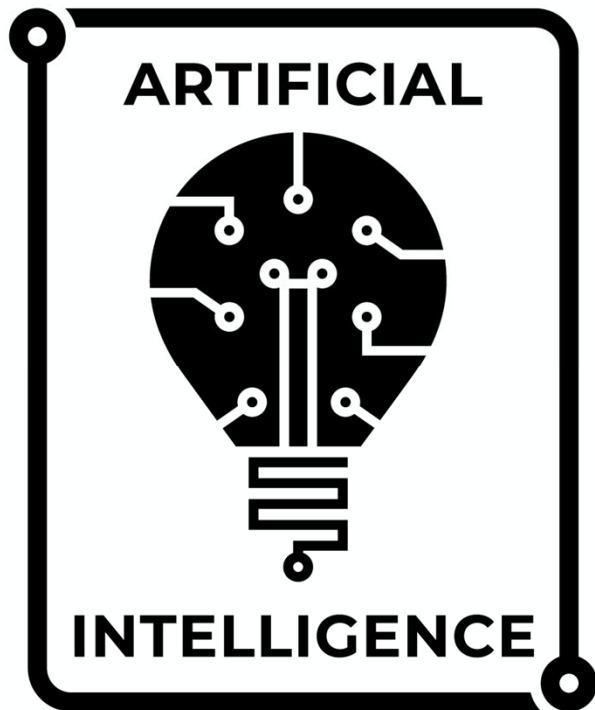


**Economic & Rural Development & Policy
Committee**

July 2026



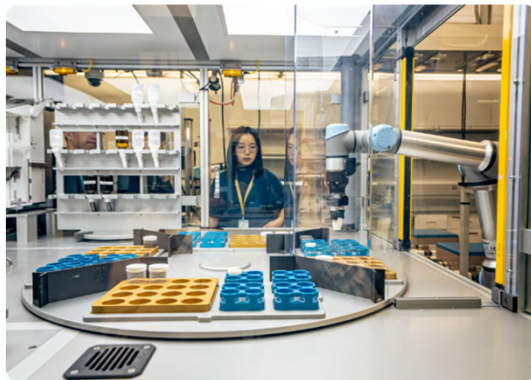
Why This Presentation?



Why this topic belongs here

AI is not a separate technology issue — it touches the committee’s core economic agenda.

The ERDPC work plan already connects the dots: agriculture and food systems, technology and AI, broadband, water, climate resilience, workforce and rural business capacity.



Agriculture & food systems

Yield, pests, grazing, processing and local supply chains

Water, land & climate

Forecasting, drought response and resource allocation

Technology & AI

Applied tools, reliable deployment and innovation capacity

Broadband & workforce

Digital infrastructure, AI literacy and rural adoption

Source: NM Legislature ERDPC 2025 proposed work plan and meeting schedule.

Where AI can expand rural opportunity

The most valuable use cases improve decisions already being made by producers, agencies and businesses.



The opportunity is practical: better forecasts, earlier warnings, less waste and more resilient rural businesses.

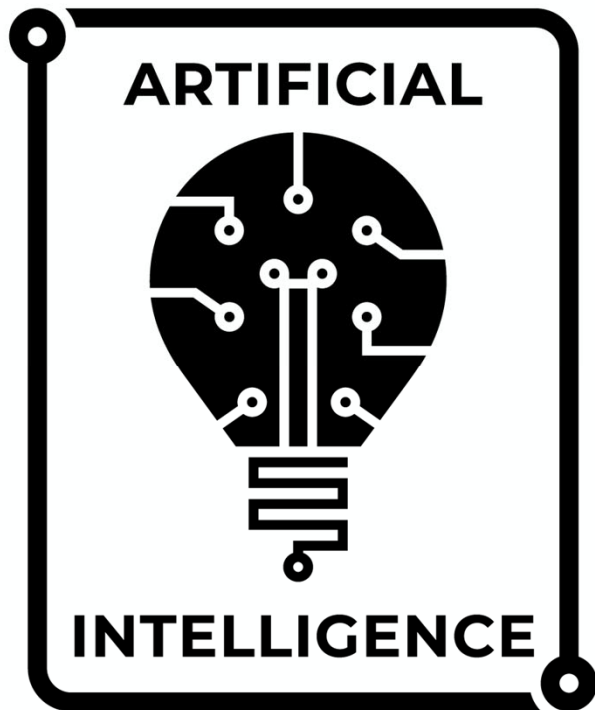
- **Water & irrigation** allocate scarce water with better forecasting
- **Ranching & grazing** monitor livestock, forage and rainfall in real time
- **Crop health** detect pests, disease and stress earlier
- **Food supply chains** match local production, processing and distribution
- **Small business** automate back-office tasks and customer communication
- **Public services** triage inspections, benefits, emergency response and outreach

Policy lens: prioritize use cases where benefits are local, measurable and shared — not simply where data extraction is easiest.

Sources: NMSU IAAM research areas; ERDPC agriculture, technology and infrastructure work-plan topics.

05

What is AI?



AI is more than ChatGPT

- AI is a discipline
- Too often AI identified as tools
 - Eliza
 - Mycin, Watson
 - ChatGPT

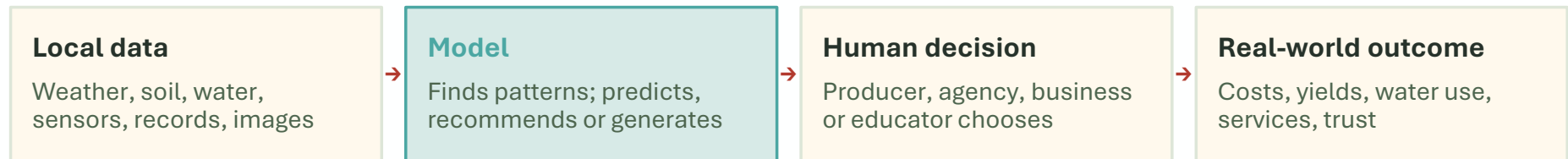
Areas of Computer Science dedicated to building systems capable of solving problems/performing tasks that typically require human intelligence

Key Takeaway: AI is not a software, is a paradigm shift in solving problems and building technologies that reflects *"intelligence"*

- Encompasses many areas
 - Machine Learning and Generative AI
 - Natural Language Processing
 - Knowledge Representation and Reasoning
 - Computer Vision and Image Understanding
 - Search and Optimization

AI is a decision-support layer, not magic

The policy question is how to use it productively while keeping people accountable.



THREE FORMS MOST RELEVANT TO POLICY

Machine learning

Learns from data to predict or classify.

Generative AI

Creates text, images, summaries or software-like output.

Agentic AI

Can plan steps and act across tools under set goals.

Best use: bounded tasks, local validation and human review before consequential decisions.

Sources: NCSL definition cited in NM HJM9 FIR; OECD-style AI system framing.

Challenges We Cannot Ignore

1 Bias in Automated Decisions

AI trained on historical data can replicate and amplify existing inequities — in lending, hiring, and public services.

2 Privacy & Data Exposure

AI systems require large datasets, raising questions about who has access to personal and business data.

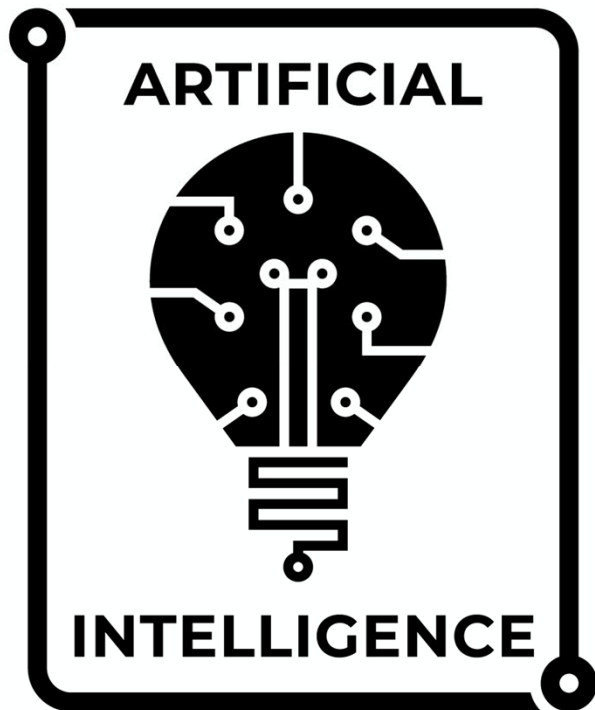
3 The Rural Digital Divide

Without broadband and technical literacy, rural communities risk being excluded from AI's benefits entirely.

4 Dependency & Loss of Control

Relying on outside tech platforms means New Mexicans may not control the systems making decisions about them.

The Data Question



The Data Question: who can learn from rural New Mexico?

AI value comes from data — but so do the risks.

Field & water data	Sensors, imagery, wells, irrigation, rainfall
Producer records	Costs, yields, animal health, land practices
Market & supply data	Prices, processing, logistics, buyers
Public program data	Permits, assistance, inspections, benefits
Community data	Health, workforce, broadband, emergency needs

Protecting Data means Protecting People



“Data protection is the trust infrastructure for rural AI.”

Context: AI in agriculture relies on sensor, imagery, operations and public-service data.

Agricultural Data: Who Owns It?

Modern farms generate:

- GPS-mapped equipment paths and yield maps
- Livestock movement and health records
- Soil moisture and fertility sensors
- Satellite imagery of land and crops
- Water usage and irrigation logs
- Financial and input cost records

The risk:

● Equipment manufacturers

Often retain data collected by their sensors under fine-print terms of service

● Ag-tech platforms

Aggregate farmer data to build models, then sell insights back to the industry

● Price vulnerability

If commodity buyers access yield data, farmers lose their negotiating power

● Water & land rights

Digitized records can expose sensitive information about ownership and water claims

The Hidden Risks: What Most People Don't See

1 The Inference Problem

AI doesn't need your private data directly — it deduces it. Yield maps, equipment GPS paths, and water logs, combined, tell a commodity buyer your harvest volume before you go to market. You never shared that information. The AI inferred it.

2 The Mosaic Effect

No single data point is sensitive. But soil maps + GPS equipment paths + irrigation records + land sales = the precise value of your land, your financial stress level, and your vulnerability to speculators — all derived without accessing any “private” record.

3 Data Lives in the Model Forever

Unlike a data breach — where changing a password limits the damage — once your data trains an AI model, that knowledge is permanent. Cancel your ag-tech subscription; the model retains what it learned from your farm. There is no “right to be forgotten” inside an AI's weights.

4 Behavioral Prediction Inverts Power

Historical data lets AI predict your next decision before you make it. Insurers price your premiums using planting patterns you shared with an equipment app. Lenders assess your credit using supply chain behavior data. You consented to data collection — but not to having your future predicted and used against you.

Data protection is economic development

Trust determines whether rural communities participate in the AI economy.

Without trusted rules, the people closest to the data may opt out — or be locked into systems that do not serve them.

Privacy & consent	Producer, worker, household and location data can be sensitive even when “not personal.”
Cybersecurity	Connected sensors, water systems and public services expand the attack surface.
Market power	Platform contracts can turn local data into vendor lock-in or unequal bargaining power.
Bias & reliability	Models trained elsewhere may underperform in arid, rural or tribal contexts.
Public accountability	Automated recommendations can obscure who is responsible for consequential choices.

Policy goal: enable beneficial use, prevent harmful use.

Sources: NM HB60/HJM9 AI policy materials; NMSU IAAM cybersecurity and privacy focus areas.

A practical data protection framework

A policy-ready approach can be simple enough for small producers and strong enough for high-risk uses.

- 1 Define rights & purpose** Who controls the data? What uses are allowed? How are benefits shared?
- 2 Collect less, secure more** Data minimization, encryption, role-based access and incident response.
- 3 Verify AI before scaling** Local validation, bias testing, accuracy checks and human oversight.
- 4 Share safely** Trusted data collaboratives, data trusts, federated learning and clean rooms.
- 5 Build capacity** Plain-language contracts, extension support, procurement standards and AI literacy.

IMPLEMENTATION LEVERS

Use grants, procurement, pilot agreements and university partnerships to make these protections practical — not just aspirational.

Potential tools: impact assessments, risk management policies, secure data sharing, AI literacy and incident reporting.

Open risks to keep on the agenda

These are the questions that will determine whether AI works for rural New Mexico.

Derived data ownership

Who owns predictions, maps and model improvements generated from farm or public data?

Small-producer burden

Will compliance be practical for small farms, ranches and rural businesses?

Public-sector decisions

When AI informs permits, benefits or inspections, what notice and appeal rights apply?

Interoperability

Can producers move their data between vendors without losing value or access?

Tribal data sovereignty

How are tribal governance rights respected in data-sharing and AI pilots?

Critical infrastructure

How are water, broadband, energy and emergency systems protected from AI-enabled threats?

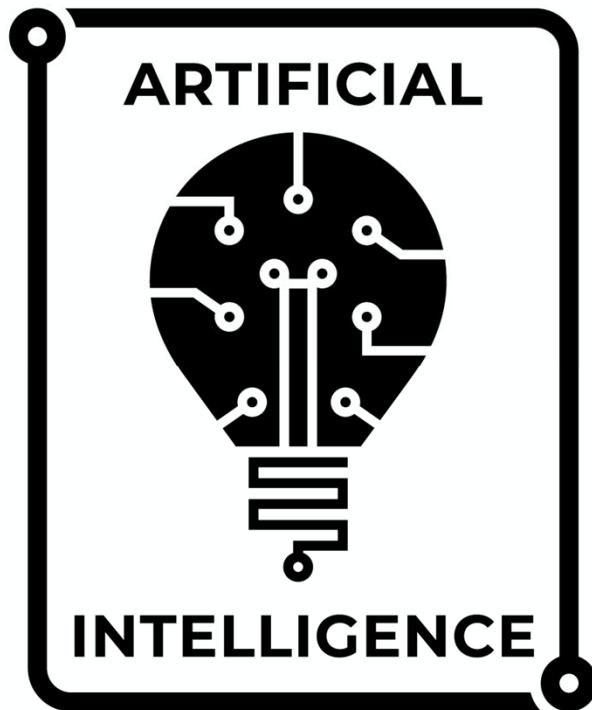
Near-term stance: regulate high-risk uses and data practices; encourage low-risk, locally validated pilots that build trust.

Context: NM 2025 proposals addressed AI impact assessments and consumer data protection; status should be verified for current session.

09

NMSU & AI

AI = Aggie Intelligence



Institute for Applied Practice in AI & ML

\$2.5M

State Investment

\$500K from NMSU President
\$2M from the State of NM

2025

Year Founded

Launched to solve real NM challenges with AI

5+

Focus Sectors

Agriculture · Sociology · Cybersecurity
Supply Chain · Advanced Manufacturing

Mission:

Bring together AI researchers, educators, and practitioners to lead New Mexico in applying AI to real-world challenges — with equity and community benefit at the center.



Discovery, Impact, Collaboration, Ethics



Applied AI for Rural New Mexico

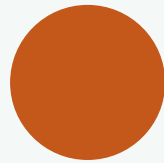
2025 Rangelands Innovators Award

Awarded to NMSU's AI & agriculture initiative for applied innovation in rangeland management



Virtual Fencing

After wildfires destroyed physical fences, NMSU's AI system guides livestock using GPS-controlled collars. Ranchers monitor entire herds from a smartphone — no fencing required.



Real-Time Ranch Dashboard

Tracks livestock movement, water availability, forage conditions, and rainfall in real time — giving ranchers actionable data to manage land under drought conditions.



Water & Land Intelligence

AI models for aquifer monitoring and irrigation planning, helping NM producers make data-driven decisions in one of the nation's most water-stressed environments.



Discovery, Impact, Collaboration, Ethics



Building New Mexico's AI Workforce

LAUNCHING FALL 2026

B.S. in Artificial Intelligence

New Mexico's first undergraduate AI degree — preparing students to design, build, and govern AI systems with New Mexico's communities in mind.

IN DEVELOPMENT

M.S. in Applied Artificial Intelligence

A graduate program focused on real-world application — from agriculture and cybersecurity to supply chain resilience, advanced manufacturing, and sociological impacts of AI.

Equitable Access Mission:

The institute is committed to extending AI education and workforce opportunities to rural and underserved communities across New Mexico — not just the urban centers.



Discovery, Impact, Collaboration, Ethics



What the Institute is already making real

IAAM's value is not abstract: it is building the research, workforce and partnerships needed for responsible deployment.

Precision ranching

AI dashboards and alerts for livestock behavior, forage, water and rainfall.

Predictive soil mapping

Machine learning from large soil observations to inform ecology and land management.

Cybersecurity & privacy

Threat detection, critical infrastructure protection and false-intelligence mitigation.

AI education pathway

AI-for-all curriculum, first NM bachelor's degree in AI, applied graduate pathways and teacher/professional microcredentials.

Statewide AI ecosystem

NMSU role in the New Mexico AI Consortium with universities, colleges and national laboratories.

A statewide asset for trusted rural AI



Thank You

Any Questions?



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