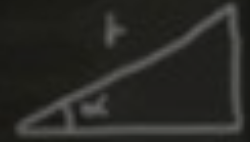

AI Without the Sci-Fi: Separating Myth From Reality for Meaningful Impact

Brandie Nonnecke, PhD
President
Nonnecke & Company, LLC
nonneckeandcompany@gmail.com



WHAT IS AI?

$$v=1$$



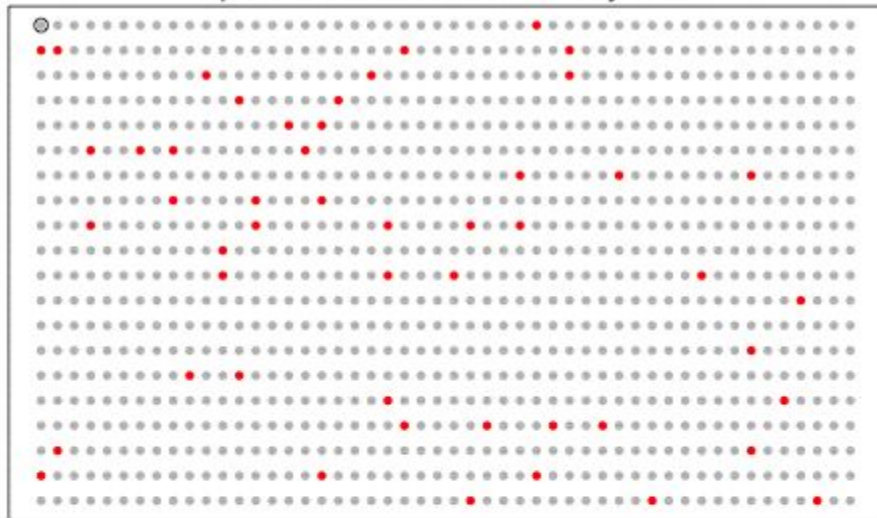
$$\lim \left(1 + \frac{1}{n}\right)^n = e$$

$$) = 1 - 1$$

$$\cos \alpha = -$$



Population: 5% are red. Test accuracy is 90%



Test 1 Right

Tested Positive



Tested Negative



The Cost of Confusion

Hype → Inflated Expectations

Fear → Paralysis

Misunderstanding → Misuse

Distrust → Erosion of Confidence

Today's Goals

Clarify what AI is—and isn't.

Separate sci-fi from AI.

Examine legal & policy shifts.

Identify responsible strategies.

Steps for practical progress.

ARTIFICIAL INTELLIGENCE

MACHINE LEARNING

Supervised Machine Learning
Unsupervised Machine Learning
Reinforcement Learning
Deep Learning
Generative AI
Foundation Models
General-Purpose AI
Frontier Models



You get AI!

And you get AI!!

ROUND

STEM

RED



ROUND ✓

STEM ✓

RED ✗



ROUND ✓

STEM ✓

RED ✓



MACHINE LEARNING

Statistical pattern recognition or correlations in data

1. Supervised Machine Learning

- Labeled datasets used to train algorithms that analyze and cluster data or predict outcomes.

2. Unsupervised Machine Learning

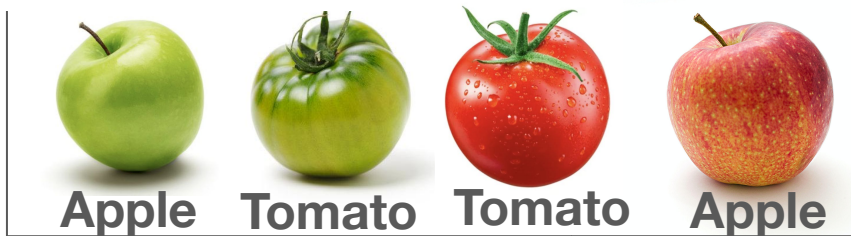
- Algorithms analyze and cluster unlabeled datasets, discover patterns.

3. Reinforcement Learning

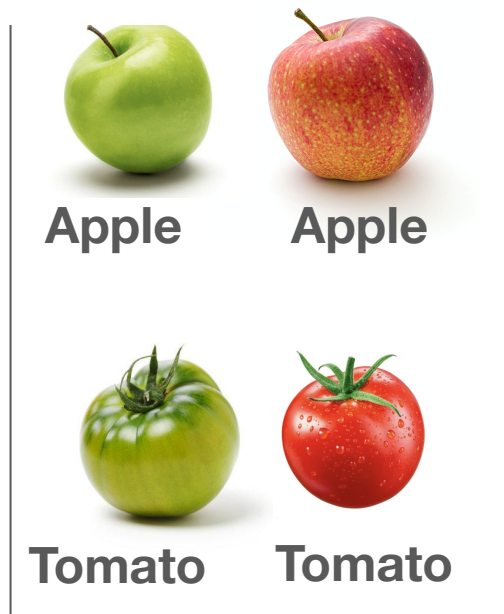
- Algorithms that learn through trial and error using feedback from its actions

Supervised Machine Learning

LABELLED DATA



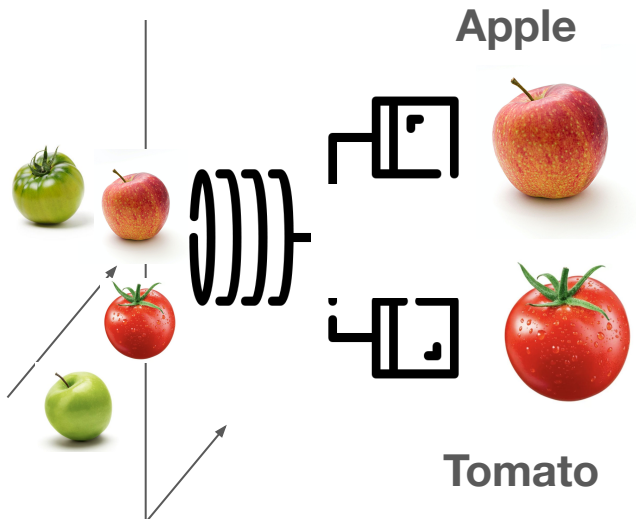
LABELS



MODEL TRAINING



PREDICTION



TEST DATA

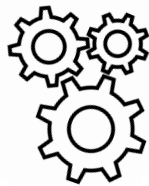


Unsupervised Machine Learning

UNLABELED DATA



Interpretation



Algorithm



PREDICTION

Apple



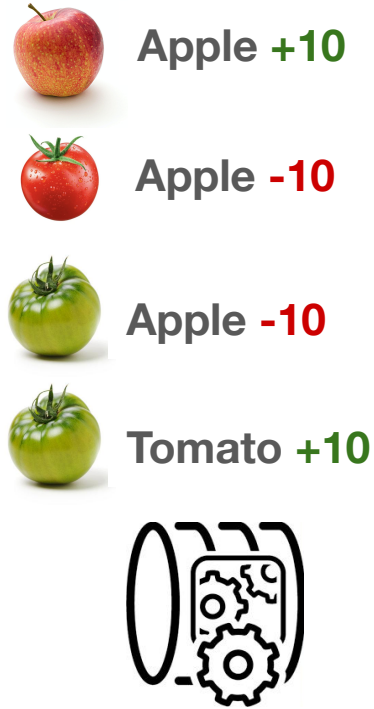
Tomato

Reinforcement Learning

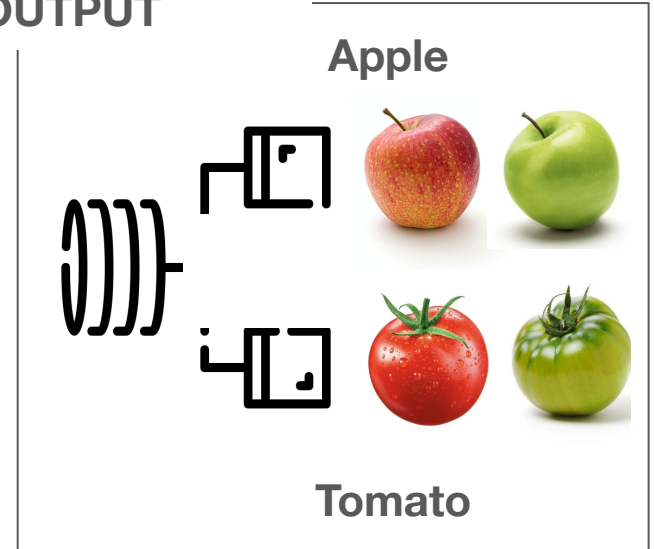
UNSTRUCTURED DATA



Rewards & Punishments



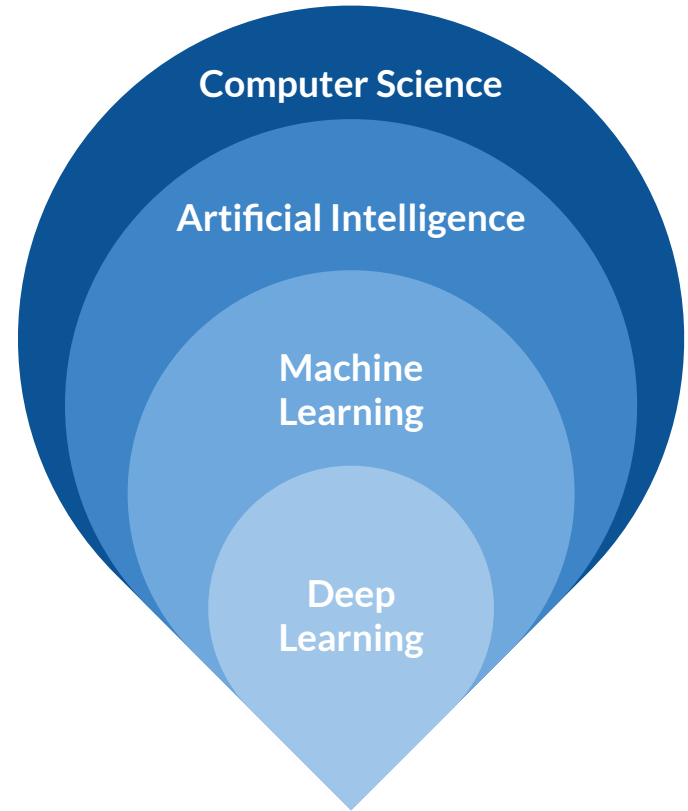
OUTPUT





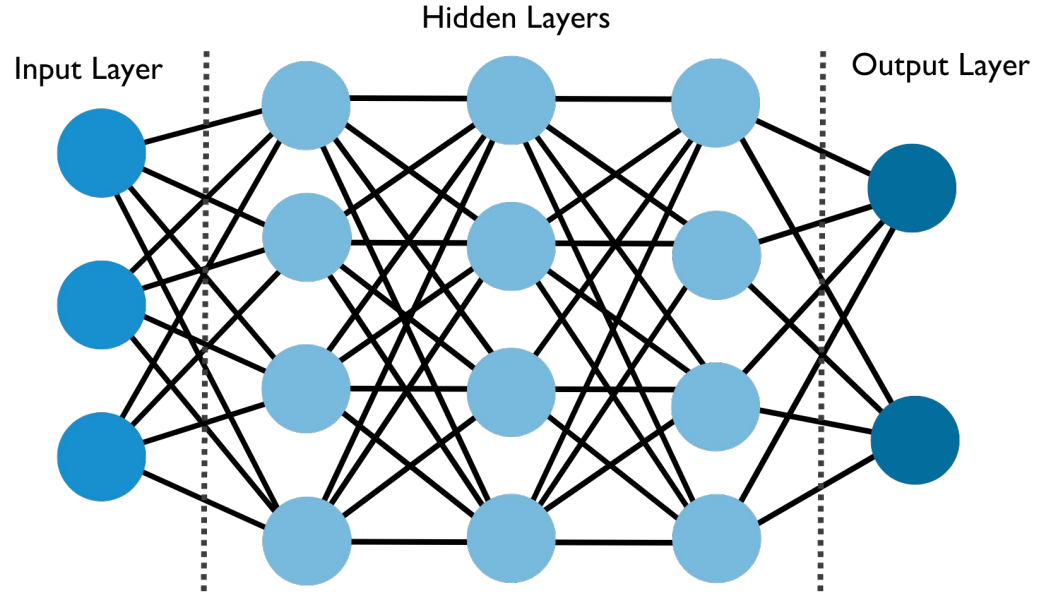
DEEP LEARNING

- Concept around since 1950s (Frank Rosenblatt)
- A subset of machine learning
- More complex
- Mimics the human brain (i.e., how neurons fire in brain)
- Ingest & process unstructured data
- Automates feature extraction (e.g., dog ears vs. cat ears)
- Classify and cluster data



Deep Learning

A type of machine learning based on artificial neural networks in which multiple layers of processing are used to extract increasingly higher levels of features from data.



AI Policy – Federal vs. State Approaches

Federal Approach

Structure	No single comprehensive AI law
Strategy	Use existing laws, agency & executive guidance
Actors	White House, FTC, DOJ, NIST, ...
Tools	Enforcement of consumer protection & civil rights law
Risk Focus	Competition, safety, & national security
Pace of Change	Slower, politically contested
Practical Impact for Institutions	Follow federal agency guidance and enforcement trends

State Approach

Multiple targeted and emerging comprehensive laws
Enact new AI-specific legislation
State legislatures, Attorneys General, state agencies
Transparency mandates, impact assessments, consent requirements
Hiring tools, automated decisions, deepfakes, consumer transparency
Faster, experimental, evolving rapidly
Monitor state laws where you operate or serve patrons



Is your organization
using AI?

Do you have a
responsible **AI strategy?**

Components of Responsible Innovation

Values: Responsible AI Strategy

Appropriateness
Social Responsibility
Non-Discrimination
Transparency & Accountability
Sustainability
Safety & Security

What are the **CORE VALUES** of
your organization?

How does your organization's
behavior align with its values?

Values: Responsible AI Strategy

Appropriateness – Falling for FOMO?! Is your org ready?!

Social Responsibility – Risk & Impact Assessments

Non-Discrimination – Auditing & Monitoring Bias

Transparency & Accountability – Auditing & Reporting

Sustainability – Assessing Environmental Effects

Safety & Security – Red Teaming

How does your organization align its
values & behaviors
to its **AI services?**



3

**Steps to Ensure Your Org
Benefits from AI**

STEP 1: Innovation Aligned With Values

Align your innovation strategy with your organization's values

(non-discrimination, environmental sustainability, integrity, etc.)

- **Strategic** (offensive, defensive, opportunistic)
- **Operational** (execution, workforce/supply chain, cybersecurity)
- **Legal** (rights, obligations, compliance)
- **Brand** (managed, customer/user-generated, issues/ecosystem)
- **Competitive** (product, performance, acquisitions & alliances)
- **Existential** (business model, access to capital, access to inputs & markets)

STEP 2: Responsible AI Strategy

Establish a responsible AI governance strategy that effectively operationalizes your values in alignment with your innovation strategy

- **Implementation of risk/impact assessments** (e.g., NIST AI Risk Management Framework)
- **Develop a “no-go” & discontinuation strategy** when risks outweigh benefits
- **Complete IEEE CertifAIEd Training and/or IAPP AI Governance Training**
- **Evaluate & audit your AI development & procurement** to ensure risk management

Step 3: No FOMO

Don't fall for FOMO.

You can only harness the benefits of AI if your organization is ready.

Structures Frameworks Tools

1

STRUCTURES

- Advisory Councils (Internal or External)
- Hybrid Internal / External Advisory Council
- Review Boards
- Communities of Practice
- Ad hoc Working Groups
- Traditional Organizational Departments
- Chief Executive Special Projects

2

FRAMEWORKS

- Risk Management (NIST AI RMF)
- Standards (ISO, IEEE, CEN-CENELEC)
 - VET AI Act
- Certifications (IEEE CertifAled, IAPP AI Governance Training)
- Principles / Values
- Maturity Models
- Roadmaps

3

TOOLS

- Risk Management (NIST AI RMF)
- Model Cards
- Datasheets for Datasets
- Technical Controls (audits/monitoring, guardrails)
- Contracts / Terms of Use
- Interventions in Software Development Lifecycle
- Training
- Audits & Reporting
- Sandboxes

Trustworthy & Responsible AI Resource Center

[Knowledge Base](#) > [Playbook](#)

Home

Knowledge Base ▾

AI RMF ▾

Playbook ▾

Govern

Map

Measure

Manage

Audit Log

FAQ

Roadmap

Glossary

Technical And Policy Documents

Crosswalk Documents

NIST AI RMF Playbook

The Playbook provides suggested actions for achieving the outcomes laid out in the [AI Risk Management Framework \(AI RMF\) Core \(Tables 1–4 in AI RMF 1.0\)](#). Suggestions are aligned to each sub-category within the four AI RMF functions (Govern, Map, Measure, Manage).

The Playbook is neither a checklist nor set of steps to be followed in its entirety.

Playbook suggestions are voluntary. Organizations may utilize this information by borrowing as many – or as few – suggestions as apply to their industry use case or interests.

Govern

Map

Measure

Manage

AI Risk Management Framework



Download the NIST AI RMF Playbook

Contact

Brandie Nonnecke, PhD
President
Nonnecke & Company, LLC
nonneckeandcompany@gmail.com

