1

PRACTICAL AI FOR HOUSING AND COMMUNITY DEVELOPMENT

BROUGHT TO YOU BY

DR. MICHAEL AKINWUMI
CHIEF AI OFFICER & RITA ALLEN FELLOW

NFHA NATIONAL FAIR HOUSING ALLIANCE

DELIVERED: SEPTEMBER 15TH, 2025

www.nationalfairhousing.org

1

NFHA

Presentation Outline

09.15.2025

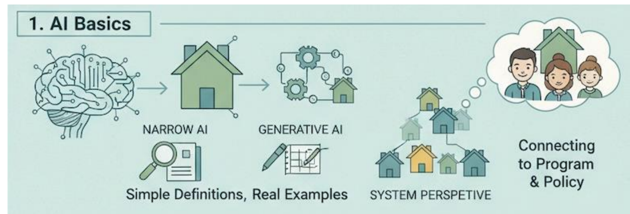
1. AI BASICS: WHAT STATE AGENCIES NEED TO KNOW
2. AI APPLICATIONS IN HOUSING AND COMMUNITY DEVELOPMENT
3. USING AI RESPONSIBLY: GOVERNANCE, RISK, AND INTERNAL CONTROLS

www.nationalfairhousing.org

2

What State Agencies Need to Know

- AI isn't just algorithms; it directly shapes jobs, housing, and communities.
- The story of Harris
  - 200 job applications, 100% rejection: what happens when systems decide destinies.
- Communities at Risk
  - Rising profits, rising unemployment — ignoring AI risks under-resourced communities.




The Atlantic
Subscribe

IDEAS

The Job Market Is Hell

Young people are using ChatGPT to write their applications; HR is using AI to read them; no one is getting hired.

Narrow AI: What State Agencies Need to Know

- Task-specific systems: image recognition, chatbots, fraud detection
- High accuracy in narrow contexts vs lack of generalization
- Examples: automated form processing, predictive maintenance, mapping low-income housing needs

General vs Super AI: What State Agencies Need to Know

- Artificial General Intelligence (AGI)
  - Broad domain competence; adaptability; transfer learning
  - Potential applications: automated policy simulation; cross-domain insights combining social, economic, environmental data
- Superintelligence (ASI or Super AI)
  - Intelligence that greatly exceeds human capacity across virtually all domains

Criteria	Narrow AI	General AI	Super AI
Purpose	Works within a set of predefined rules to perform specific tasks.	Capable of performing any intellectual task that a human can.	Achieve intelligence in AI systems that surpasses human intelligence.
Example	Virtual assistants, recommendation systems, chess-playing AI.	Currently hypothetical, advanced robotics.	Currently Hypothetical, far beyond human capabilities.
Learning Capability	Typically uses narrow data sets and limited to specific problems.	Can learn and adapt like humans across various fields.	Learns and improves autonomously, exceeding human learning speed.
Cognitive Abilities	Mimics specific human abilities (e.g., visual recognition, language processing).	Replicates general human intelligence and understanding across a wide range of tasks.	Far exceeds human cognitive abilities, potentially including creativity and emotional intelligence.
Type of AI Model	Fixed programming models tailored for specific domains.	Self-learning AI capable of adapting and reasoning in its environment.	Self-learning AI model capable of continuous learning and evolution.
Data Processing Mechanisms	Uses machine learning, neural networks, and natural language processing.	Clustering and association with advanced machine learning, deep learning, and NLP.	Data processing systems modeled after the human brain to achieve behavioral intelligence.

CREATED BY FUTURESKILLSACADEMY.COM ©

AI Applications in Housing and Community Development

- Automating Administrative Tasks
- Enhancing Underwriting & Fraud Detection
- Predictive Analytics for Planning & Decision-Making

Using AI Responsibly: Governance, Risk, and Internal Controls

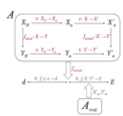
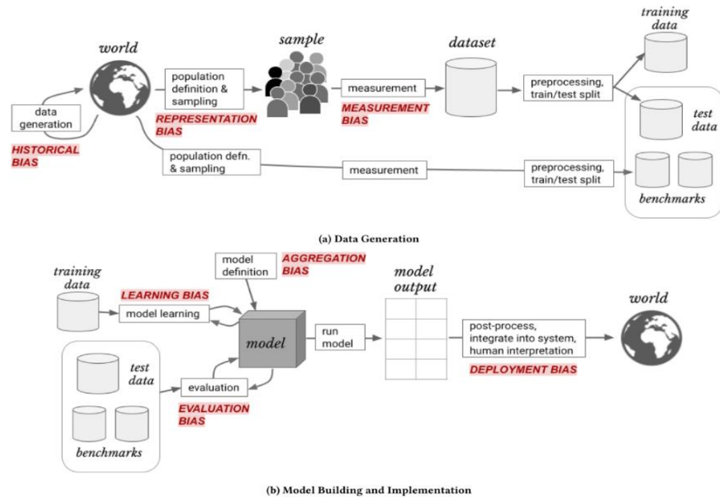
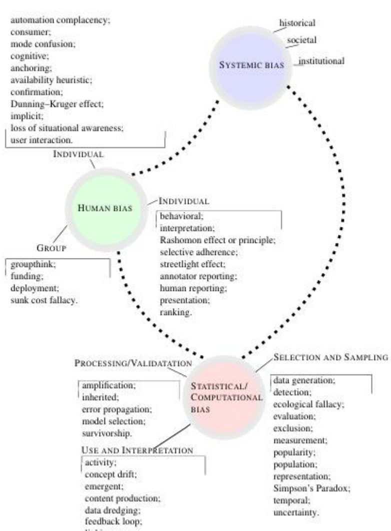


Figure 2: A data generation and ML pipeline viewed as a series of mapping functions. The upper part of the diagram deals with data collection and model building, while the bottom half describes the evaluation and deployment process. See the text for a detailed walk-through.



Suresh, Harini, and John Guttag. "A framework for understanding sources of harm throughout the machine learning life cycle." *Proceedings of the 1st ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization*. 2021. https://dl.acm.org/doi/fullHtml/10.1145/3465416.3483305



Clear objectives for Using an AI System

Three aspects of bias that should be mitigated at the **business understanding** and **data understanding** stages:

1. **Human bias**: human thought influenced by "limited heuristic samples and [reduction of] predicting values to simpler judgmental operations."
2. **Systemic bias**: "procedures and practices that result in certain social groups [within protected class boundaries] being advantaged and others being disadvantaged." Think of ***adverse consumer outcome*** and ***degree of potential harm to consumers***.
3. **Statistical or computational bias**: "errors that result when sample is not representative of the [target] population"; or when data does not represent business understanding of the problem.

Natl. Inst. Stand. Technol. Spec. Publ. 1270, 86 pages (March 2022) CODEN: NSPUE2. https://doi.org/10.6028/NIST.SP.1270

Monitoring: Risk management and internal controls, governance, regulatory compliance and practical implementation

Risk Management and Internal Controls

1. Risk identification: classification of applicable known risks, identification of unknown risks, and modeling of the risks. These should include privacy and security risks to protect consumers from **confidentiality and integrity attacks** (CIAs).

2. Risk analysis and evaluation: set a risk tolerance and operationalize it.

3. Risk treatment: implement mitigation measures to control the level of risk within the limits of the risk tolerance.

4. Risk governance: establish the decision-making structure for the risk identification, analysis and evaluation, and treatment components.

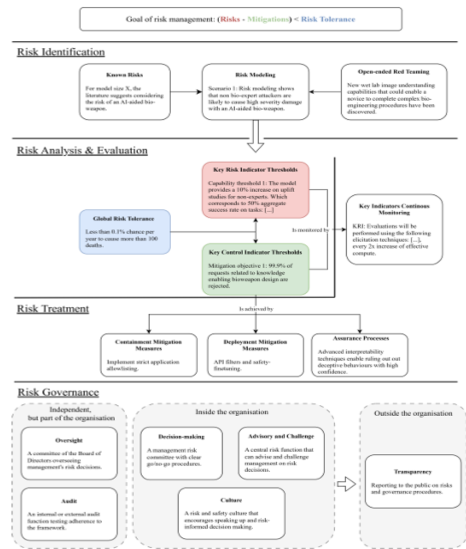


Figure 2: Our complete risk management framework along with examples illustrating each component.

Campos et al., https://arxiv.org/pdf/2502.06656

Monitoring: Risk management and internal controls, governance, regulatory compliance and practical implementation

AI System Governance

1. First line of responsibility: spot and address ethical and legal risks in the contextual business environment.

2. Second line of responsibility: formulate and monitor organizational standards, practices, policies, and processes to govern AI systems.

3. Third line of responsibility: operational governance that audits policies, controls for development, deployment and use of AI systems against established standards.

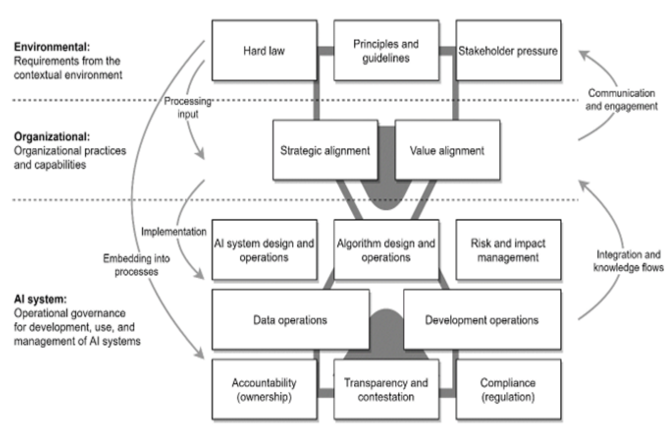


Fig. 2. The hourglass model of organizational AI governance

Mantymaki et al., https://arxiv.org/pdf/2206.00335

AI Basics | Practical Use | Responsible Use

11

Monitoring: Risk management and internal controls, governance, regulatory compliance and practical implementation

Regulatory Compliance

1. First side of compliance: information and documentation to show that the production and development models are consistent and compliant with the laws, policies and standards.

2. Second side of compliance: information about third-party AI systems and data to show that insurers have done their due diligence to mitigate possible adverse consumer outcomes.

www.nationalfairhousing.org

11

12

Thank You

www.nationalfairhousing.org

12