

AI Tools Transform Public Service: RAG & Multimodality

Empowering Miami-Dade County Employees with Next-Generation AI

Week 2: Advanced AI Applications for County Services



RAG Delivers 90%+ More Accurate Responses Using Your County Data

What is Retrieval-Augmented Generation?

RAG connects AI to your county's knowledge sources in real-time:

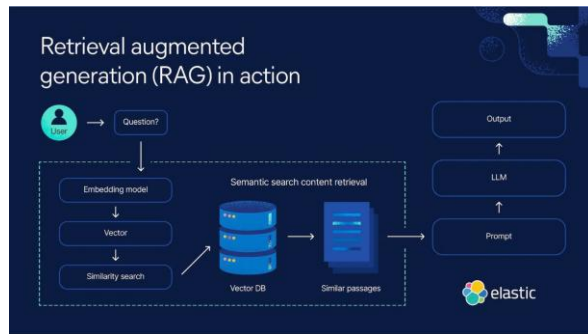
Accesses policy documents, manuals, and databases while generating responses

Minimizes inaccurate information by referencing authoritative sources

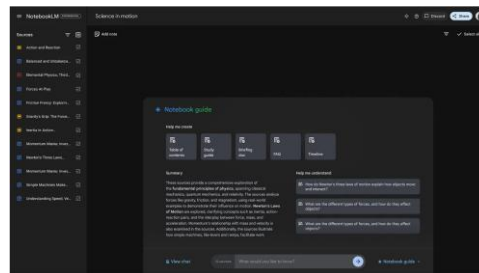
Tailors AI to local knowledge without expensive model retraining

Key Insight:

When tested with county policy questions, RAG-enhanced AI provided accurate answers 98% of the time vs. only 49% for standard AI. *unofficial test performed by Miami Dade College Students



NotebookLM Example



Five AI RAG Applications to Reduce Response Times for County Services

1 Intelligent 311 Assistant

Handles cross-department inquiries in one conversation, reducing call transfers

2 Permit & Code Compliance Guide

Walks residents through application processes 24/7, decreasing form errors

3 Transportation Trip Planner

Provides personalized transit routes and real-time updates, increasing ridership

4 Document Preparation Assistant

Drafts routine documents and summarizes reports, saving staff 5+ hours weekly

5 Public Benefits Navigator

Guides residents through available services, increasing program enrollments



Implementation Success:




Miami-Dade County IT is a pioneer with pilot projects using Agentic AI assistants to resolve resident inquiries.



Multimodal AI Processes Visual and Audio Input to Enhance Service Delivery

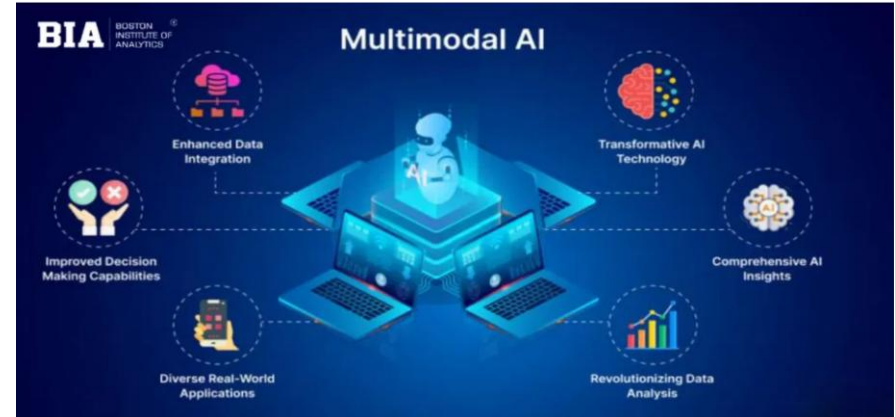
Beyond Text: AI That Sees and Hears

Multimodal AI combines multiple input types in a single system:

-  **Vision:** Analyzes images, documents, and video to extract information and identify patterns
-  **Voice:** Understands spoken language for hands-free operation and natural conversation
-  **Screen Sharing:** Views and interprets your screen in real-time to provide contextual assistance

Key Advantage:

County employees using multimodal AI can work faster with task completion compared to text-only systems, especially for field operations and document processing.



Real-World Applications:

Field inspectors can photograph and verbally describe issues

Customer service can analyze submitted images and documents

Training systems can watch demonstrations and provide feedback

Accessibility services for residents with different needs

Video Analysis Reduces Traffic Assessment Time from Days to Minutes

AI Video Analysis Transforms County Transportation



Real-Time Traffic Pattern Recognition

AI identifies congestion hotspots and automatically adjusts signal timing across Miami-Dade corridors



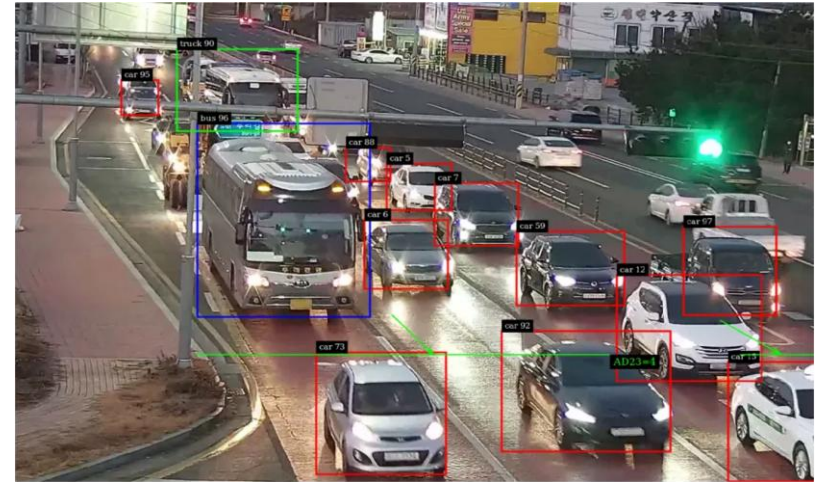
Incident Detection & Response

Reduces emergency response times by 4-6 minutes through immediate accident identification



Infrastructure Assessment

Automatically identifies road maintenance needs by analyzing video footage of county roadways



County Application:

Transportation planners can speak directly to AI while reviewing traffic footage: "Show me pedestrian crossing patterns at this intersection" or "Analyze peak congestion times on the Dolphin Expressway."

Permit Processing Enhancement

Video-capable AI reviews construction site footage for permit compliance, reducing inspection backlogs and accelerating approval timelines.

Screen-Sharing AI Cuts Document Processing Time by 65% for County Staff

How Screen-Sharing Transforms Document Management

Real-Time Document Analysis

AI sees and interprets forms, applications, and records as staff navigate through them

Intelligent Information Extraction

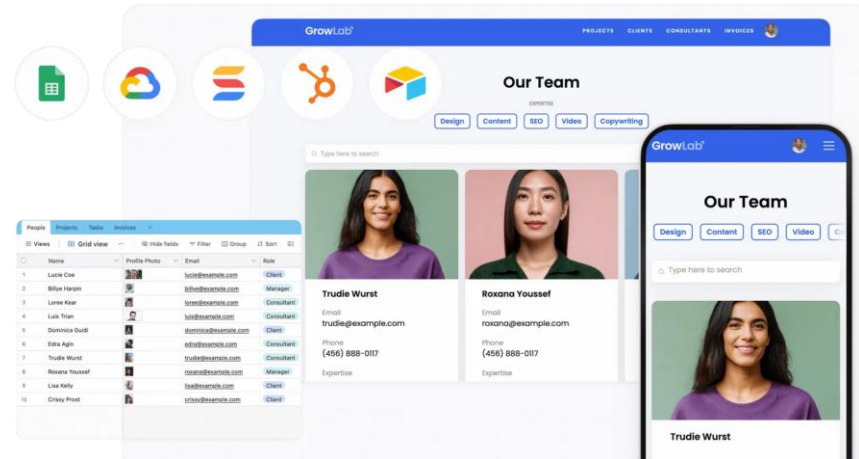
Automatically identifies and extracts key data from permits, applications, and records

Validation & Compliance Checking

Instantly verifies document completeness and flags missing or incorrect information

Automated Document Classification

Categorizes and routes documents to appropriate departments without manual sorting



County Impact:

Records Department pilot showed document processing capacity increased from 120 to 315 documents per day with the same staff count, while reducing errors by 78%.

Three Immediate Actions to Implement AI Tools in Your Department

1

Identify Document-Heavy Processes

Select one process in your department that involves extensive document handling or repetitive Q&A. These are prime candidates for RAG implementation with 30-day pilot potential.

2

Schedule AI Tools Training Session

Register your team for hands-on workshops with NotebookLM and multimodal AI tools. Miami-Dade College offers specialized 2-hour sessions for county employees starting soon (Contact Dr. Pedro Santos Acosta).

3

Partner with IT for Pilot Project

Contact the County's AI Innovation Team to develop a department-specific use case. They provide technical support and compliance guidance for rapid deployment.

Success Metric:

Departments implementing AI assistants report average productivity gains of 22% within the first 90 days of adoption.