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ZINE DOT AI

Monthly Dossier from Nexval.AI's Research Lab

Everyone's Talking About AI in Title. Almost No One's Talking About the Risks

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From the Editor's Desk

There's a subtle shift happening in how title processes are being engineered—less about replacing human judgment, more about formalizing it into logic that machines can follow, audit, and sometimes question. That difference matters.

In recent years, we've witnessed unpredictable political decisions—often criticized for their opacity and lack of clear rationale. Think about Trump's decisions, where the logic behind them was frequently unclear, leaving many wondering *why* things were happening the way they did. Similarly, AI models in mortgage and title operations can behave in ways that are just as difficult to trace or defend. A misstep in a document classifier or a flawed risk flag isn't just a tech issue; it can become a legal headache.

The tension now is between automation and assurance. You can build fast, or you can build with traceability—but doing both takes a different mindset. We're watching more vendors quietly push toward hybrid design patterns: models wrapped in guardrails, AI outputs gated by risk scores, and decision trails engineered for audit-readiness rather than post-mortem cleanup.

As you read this edition, one question to keep in mind: ***Is your AI behaving more like infrastructure—or like a black box?*** The difference isn't academic—it's operational.

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What's Inside?

Welcome to the Nexval.ai's Zine Dot AI

What is Zine Dot AI?

At Nexval.ai, we envisioned a future where mortgages were effortless. Inspired by our AI, we crafted a name that harmonized simplicity with innovative technology. Thus, Zine Dot AI was born - a pioneering platform that transforms the mortgage journey, harnessing the power of advanced AI to make the complex, simple

How will Zine Dot AI make a difference for you?

This dossier is your roadmap to mortgage industry leadership, providing expert insights and analysis to ensure you're always at the forefront of emerging trends and opportunities.

Each issue will deliver:

Ready to make smarter decisions, stay ahead, and seize new opportunities? Let's dive in together!

AI Spotlight:

Title Fraud Detection with AI—Can It Catch What Humans Miss?

Title fraud doesn't always announce itself. It can look like a clean deed transfer or a familiar borrower name. But underneath, it might be synthetic identity use, forged documentation, or a lien that no one remembers placing. For mortgage execs, the real challenge isn't detecting the obvious fraud—it's catching the sophisticated manipulations hiding in plain sight.

As the title industry pushes deeper into digitization, the fraud risk surface is growing wider. Increasingly, title underwriters and startups are bringing AI into the picture—not as a silver bullet, but as a filter that narrows down what deserves a closer look.

What Are These AI Tools Actually Doing?

This isn't just optical character recognition with a new label. The newer AI-based fraud detection tools are trained to do something different: find patterns that humans aren't trained to see.

- **Entity resolution models** parse across fragmented public records and internal documents, comparing identity elements across borrower names, Social Security numbers, and previous transaction histories.
- **Natural language processing (NLP)** models read deed and lien documents at a semantic level, identifying irregular legal phrasing or deviations from jurisdiction-specific norms.
- **Graph-based anomaly detection** is used by some players to trace ownership transfers, lien placements, and releases across time—flagging transactions that resemble known fraudulent schemes.

One California-based startup, for instance, has developed a title chain analyzer that works backward from current ownership, mapping historical filings to identify "noise" in ownership history—like unusually short holding periods, rapid back-to-back transfers, or duplicate seller names across counties.

Real-Time Risk Scoring Is Changing the Game

The real change isn't just in what AI can detect—but in when it can detect it. Batch audits that once took days are being replaced with **real-time risk scoring,** giving ops teams the ability to flag questionable records as they come in.

In one example from a mid-sized underwriter, AI models trained on more than a decade of county-level fraud incidents are now used to pre-screen document packages. Within 60 seconds of upload, the system returns a confidence score and highlights the parts of a document that need human attention. Fraudulent subordination agreements that previously took days to detect are now caught before the package moves to title clearance.

But There Are Still Gaps—and That's the Point

While these tools offer meaningful lift, they're only as good as the data they train on—and public record quality varies significantly across states and counties. OCR errors, incomplete scans, or outdated formats all introduce friction. The best AI tools are designed with this in mind, offering explainable results that still allow underwriters to apply human judgment

where it matters.

The goal isn't to eliminate human review. It's to make it smarter.

If you're wondering what this could look like inside your existing title workflow, we're already testing these models with partners who process thousands of transactions a month. Nexval.ai builds AI pilots that plug into existing review processes—focused on real-time risk, operational clarity, and measurable ROI. We're not selling ideas. We're co-building systems that work.

Let us know if you want a quiet test run.

AI in Action:
Title Review Isn't Manual Anymore—At Least Not Everywhere

If title review still means reading scanned PDFs line by line, you're not alone—but you're also not where parts of the industry are heading. Several large underwriters and tech-forward originators are experimenting with AI models trained specifically for parsing, validating, and even "questioning" title-related documents.

This isn't a generic document AI repurposed from other use cases. These are models fine-tuned to understand the language of deeds, lien releases, subordination agreements, and payoff letters—down to jurisdictional clauses and formatting norms that vary county by county.

So What's Actually Being Automated?

It's not end-to-end review, but enough to matter. Some key examples:

- **Cross-checking legal descriptions:** AI parses the metes and bounds from multiple document types and compares them for discrepancies, flagging mismatches that often go unnoticed.
- **Lien validation:** Systems trained on historical lien filings can detect anomalies in release dates, missing signatures, or non-standard satisfaction language that could signal unreleased debt.
- **Ownership chain validation:** AI models use title chain mapping and entity recognition to spot breaks or overlaps in title continuity, especially when dealing with trusts, LLCs, or estate transfers.
- **Escrow instruction alignment:** Some servicers are experimenting with NLP engines that cross-reference final settlement instructions with payoff documents, identifying where disbursement instructions don't match original agreements.

The result isn't full automation—but a meaningful reduction in first-pass errors and escalation volume. One large title processor reported a 38% drop in post-closing revisions after piloting AI models for document classification and extraction.

Not All AI Is Off-the-Shelf

Some of these tools are homegrown. Others are built in partnership with vendors willing to train on proprietary datasets. The key isn't just model quality—it's integration. A powerful model that doesn't work inside your title production system or LOS is just another tool in a silo.

That's where we've seen traction: AI models that "show their work," flag uncertainty, and plug directly into title production or servicing workflows without heavy reengineering.

If you're running title at scale and thinking about where AI could quietly take on the grunt work, it's already happening—in pockets. Nexval.ai's project teams are actively working with title operations to identify the highest-friction tasks for AI augmentation. The proof isn't in a pitch—it's in a working demo.

Model Behavior:
Where AI Meets Risk Logic

In this segment, we examine how specific AI models interact with operational rules, compliance boundaries, and real-world mortgage data. Less about capability—more about how the model behaves under pressure.

Auto-Title Clearance for Refi: Can the Model Decide in 5 Minutes?

In today's volume-light environment, refinance loans remain a critical yet sensitive stream—high intent, low tolerance for friction. Some lenders are now piloting a model-driven approach that challenges the old wisdom: Does every title file need to be touched by a human?

This is where model behavior matters.

The Scenario

Certain refinance applications—especially those with a recent clean title history—are now being evaluated by AI in real time. The decision logic is gated by three variables:

- **Property chain consistency**
- **No post-close lien activity**
- **Borrower ownership and occupancy alignment**

Once these are met, the model runs a soft decision. The outcome? Instant clearance or flagged for human review.

How the Model Thinks

This isn't a one-size-fits-all rules engine. The model includes:

- **County record scraping + NLP-powered clause comparison**
- **Document crosswalks using OCR + signature vector detection**
- **Policy overlays that interpret underwriting tolerances**

The aim is not to replace underwriting, but to front-load the clearance decision when the data is clear, reducing the time humans spend confirming what the model already knows.

Observed Behavior in the Field

Lenders testing this have reported:

- Clearance decisions in **under 10 minutes**
- An average **$175 saved per refi file**
- No measurable rise in curative post-close exceptions

Interestingly, the model has also highlighted edge cases where historical title data was technically clean but operationally suspect—something traditional workflows often miss due to backlog fatigue.

Operational Implications

This model demands well-maintained servicing data, access to structured public records, and an underwriting partner open to policy tech integration. It's not fast in deployment—but it is fast once deployed.

At Nexval.ai, we're applying AI to speed up exactly these kinds of low-risk title scenarios—where document complexity is minimal, history is clean, and compliance still matters. Our NLP- and ML-powered tools are helping lenders cut manual effort, reduce errors, and clear titles faster.

👉See how one lender cut processing time by 50% with AI-powered title automation

AI Gone Wrong:
Real Cases and What We Can Learn

When artificial intelligence fails in high-stakes domains like finance or real estate, the effects aren't just technical—they're human. Borrowers lose time, lenders lose money, and regulators raise eyebrows. The mortgage industry's move toward AI must be paired with a deeper understanding of what happens when machine logic misfires.

Here are three real-world cases where AI didn't deliver—and the lessons worth internalizing:

Fannie Mae's Model Risk Management Warning

In 2023, Fannie Mae issued fresh guidance emphasizing the **importance of model governance** for automated underwriting systems. This followed scrutiny from regulators who found discrepancies in how risk models handled edge cases—particularly for underserved borrower groups. The underlying issue? **Lack of transparency in the model's decision-making path**, especially when it came to credit overlays and risk flags.

Lesson: Mortgage models must be auditable, not just accurate. Lenders can't rely on black-box predictions when regulators demand explainability.

Zillow's iBuying Collapse

Zillow's iBuying business famously relied on machine learning models to predict home prices. In 2021, it shut down the program after the models consistently overestimated resale values—causing the company to lose over **$500 million in a single quarter**. The algorithm simply didn't keep pace with volatile market shifts.

Lesson: Models trained on historical data struggle with real-time volatility. Even minor prediction drifts can have major financial consequences at scale.

Title Insurance Denials Tied to AI Misclassification

While not always made public, there have been several private arbitration cases where **automated document classification led to flawed title reports**—either missing liens or flagging legitimate ones as invalid. One underwriter reportedly rejected a claim based on "AI-generated misclassification," later reversed by human review.

Lesson: AI in title processing must be trained on jurisdiction-specific variances and anomaly detection—not just bulk patterns. Confidence scoring and human checkpoints matter.

What This Means for Mortgage Execs

These failures aren't arguments against AI. They're reminders that **AI systems behave like infrastructure, not assistants**—and require the same rigor in design, oversight, and contingency planning. At Nexval, we've designed our AI deployments to be **intervention-friendly and tightly scoped**—focused on solving domain-specific challenges without overreach.

If you're deploying AI in production, your real differentiator isn't just speed—it's knowing where the model might fail, and having a plan for when it does.

As AI continues to play a pivotal role in transforming the mortgage industry, CIOs and CTOs face increasing pressure to ensure that AI implementations are not only efficient but also reliable, transparent, and compliant with regulatory standards. The technical landscape of AI in title and risk management is complex, with many moving parts that require a deep understanding of both AI principles and the nuances of the mortgage sector.

Tackling Model Drift and Data Integrity

One of the most significant technical challenges with AI in mortgage operations is model drift—the tendency of models to become less accurate over time as data changes. In title and underwriting systems, even slight drifts in model behavior can result in erroneous assessments, potentially leading to financial loss or regulatory scrutiny.

- **Data Variability:** The dynamic nature of the housing market, along with the vast differences in jurisdictional requirements, means that AI models must be continually retrained on fresh, accurate data. Relying on outdated or unrepresentative datasets can introduce significant risk.

- **Real-Time Adaptability:** AI systems must be able to quickly adjust to changes in the market, whether it's due to economic shifts, regulatory changes, or sudden market volatility. This requires continuous monitoring, automated feedback loops, and proactive model retraining.

Model Explainability: A Must for Compliance and Trust

For AI systems that impact high-stakes decisions like title insurance or underwriting, model explainability is not optional. Regulatory bodies increasingly require that automated decisions be traceable and understandable, which presents a challenge for more complex AI models like deep learning or ensemble methods.

- **Model Versioning and Drift Monitoring:** While black-box AI models can deliver high accuracy, their decision-making paths are often opaque. This creates challenges for compliance officers and regulators who need to understand how models arrive at specific conclusions, particularly when those conclusions affect financial transactions or legal outcomes.

- **Best Practices:** CIOs and CTOs should prioritize explainability as a core component of AI design. Techniques such as model-agnostic interpretability frameworks or explainable AI (XAI) can provide insights into how a model is making decisions, allowing for greater transparency and trust.

Integrating Human Expertise with AI-Driven Decisions

AI is an enabler, not a replacement for human judgment. In mortgage operations, AI must be seen as a tool to enhance decision-making rather than eliminate human involvement. For instance, AI models used in title review or fraud detection should flag potential issues, but the final decision must always involve expert human oversight.

- **AI and Human Interaction:** Building systems that allow seamless integration of AI-generated insights with human review processes is crucial.

This means designing workflows where AI can present potential risks or discrepancies to human experts, who can then make the final call.

- **Confidence Scoring:** One method for improving the reliability of AI decisions is through confidence scoring—where the system assigns a confidence level to its conclusions. This allows human experts to prioritize cases with lower confidence scores for further review, reducing the chances of errors slipping through.

Performance Monitoring: Beyond Accuracy

While accuracy is a key metric for evaluating AI models, it's not the only one that matters. For title and risk management systems, performance metrics must also account for the system's reliability, scalability, and response time.

- **Scalability Considerations:** As mortgage operations scale, the AI system must handle increased volumes of data and requests without a drop in performance. This requires a robust infrastructure that supports load balancing, parallel processing, and seamless integration with other enterprise systems.

- **Continuous Evaluation** AI systems should be monitored continuously for performance degradation or unexpected behavior. Real-time monitoring tools and alerting systems can help detect issues early, allowing teams to respond before problems escalate.

Ensuring Sustainable AI Deployment in Mortgage Operations

AI presents significant opportunities for the mortgage industry, but its

deployment must be approached with caution and a clear understanding of the underlying risks and technical complexities. CIOs and CTOs need to focus not only on the efficiency of AI systems but also on their scalability, transparency, and alignment with business needs and regulatory requirements.

At **Nexval.ai**, we help mortgage leaders build AI systems that are intervention-friendly, scalable, and designed with transparency at their core. By focusing on the real-world needs of mortgage operations, we ensure that AI is not just deployed but also governed in a way that minimizes risk and maximizes value.

Understanding where AI might fall short—and having a plan to address those shortcomings—is a key differentiator for organizations looking to stay ahead in this rapidly changing landscape.

Industry Report Digest

- The U.S. housing market showed **softening trends in late April**, with pending home sales falling 10% year-over-year and median prices dipping 1%—the first annual price decline in nearly two years. Inventory levels continued climbing, reaching 744,000 unsold single-family homes (33% higher than 2024), signaling an end to pandemic-era shortages but pressuring prices as demand lags behind supply. While the Northeast saw a post-Easter rebound in new listings (notably in NY, NJ, and MA), buyer activity remained subdued with mortgage rates hovering near 7%, leaving May's seasonal demand as the next key test for market momentum.

- The income needed to afford a median-priced U.S. home has **surged 70%** since 2019 to $114,000, as prices per square foot rose 1.1% year-over-year despite near-flat overall list prices. While inventory hit a post-pandemic high (up 30.6% annually), sellers are adjusting with 18% of listings cutting prices—the highest April rate since 2016—as homes linger longer on the market (+4 days YoY). Economists note a rebalancing market, offering buyers more choices and pricing flexibility amid persistent affordability challenges.

- The Federal Reserve maintained the benchmark interest rate at **4.25%-4.5%**, marking the fifth consecutive hold as inflation (2.4% annually) remains stubbornly above its 2% target. Chair Powell signaled prolonged caution, citing economic resilience but highlighting risks from aggressive new tariffs that could reignite inflation or weaken the labor market—factors that will dictate whether the Fed proceeds with its projected two rate cuts later this year. While mortgage rates may see short-term relief from the pause, analysts warn May's inflation data and tariff impacts will be critical, with markets split between a July cut (per Barclays) and no cuts in 2024 (per Morgan Stanley).

- MISMO has opened a **30-day public comment period** (through June 5, 2025) for proposed updates to its Mortgage Insurance Activation API Implementation Guide (iGuide) and sample files, which aim to improve efficiency by enabling lenders to submit closing date details to MI providers directly from their systems. The revisions include typographical corrections, updated comments, and two new object references, while also inviting stakeholders to disclose any potential intellectual property conflicts. This industry-standard update reflects MISMO's collaborative approach, supported by member contributions and the Innovation Investment Fee, to streamline mortgage processes and reduce errors.

AI Across Industries

What Regulated Medical Software Can Teach Us About Title AI

In healthcare, software doesn't get a free pass just because it runs fast or "learns" from data. Every line of code, every requirement, and every algorithmic decision is held accountable—often in real time. That's why platforms like **Ketryx** have emerged to embed compliance into the DNA of software development for medical devices and AI-driven diagnostic tools.

Ketryx exemplifies a new class of *Agentic AI*—systems that not only act on data but also take responsibility for their outputs within tightly regulated environments. The platform integrates with development tools like Jira and GitHub, tracing every change, mapping risks, and building auditable documentation as code evolves. It doesn't allow deployment unless each requirement and control has been reviewed and signed off, aligning every system behavior with FDA and ISO mandates.

Now consider the title industry. We're seeing increasing use of AI for lien detection, exception flagging, and document classification. But few, if any, of these systems are built with agentic principles in mind. There's no industry-standard audit layer to tie a decision back to a rule or a risk register. There's little to no governance ensuring that AI behaves consistently across jurisdictions or rare edge cases. And once a decision is made, there's often no clear trail showing how it was reached—or *why*.

The regulated software space offers a blueprint:

- **Auditability isn't a feature—it's the foundation.**
- **Documentation must reflect what the system actually does—not just what was planned.**
- **Risk controls should block deployment—not come after it.**

If title software vendors adopt even a portion of this rigor, they won't just be safer—they'll be legally stronger. Because as agentic AI becomes more common in domains where outcomes carry risk, the expectation won't be whether you used AI—it will be whether your AI can explain itself.

Ketryx may serve a different vertical, but its design principles—autonomy with accountability—are exactly what the mortgage and title industry needs to take seriously. At **Nexval.ai**, we've been building with those principles from day one.

Upcoming Event to Add to Your Calendar!

This June, the mortgage industry's most influential voices will converge at The ***Gathering***—HousingWire's flagship leadership event. Set against the backdrop of a rapidly shifting market, The ***Gathering*** offers a rare chance to hear directly from real estate brokers, mortgage banking and servicing executives, investors, technologists, and policymakers. Expect candid conversations and practical insights—not the over-polished messaging of a typical conference. Whether you're grappling with operational headwinds, planning your next tech initiative, or scouting solutions for liquidity and margin pressure, this is where strategies sharpen.

The event is built around three core goals:

Connect with high-level peers through structured networking and shared experiences;

Learn from top-performing leaders and data-driven experts across mortgage, real estate, and capital markets;

Execute with new ideas and partnerships that are grounded in real operations—not just theory.

We're also pleased to share that **Suha Zehl**, Nexval.ai Board Advisor and founder of Z Technology Solutions, will be in attendance. A Certified Mortgage Banker and one of the industry's most respected voices in mortgage technology, Suha brings both executive leadership and real-world implementation experience to the table. If you're attending and would like to meet with her, it's a valuable opportunity for candid, expert-level **conversation**.

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The Big Picture

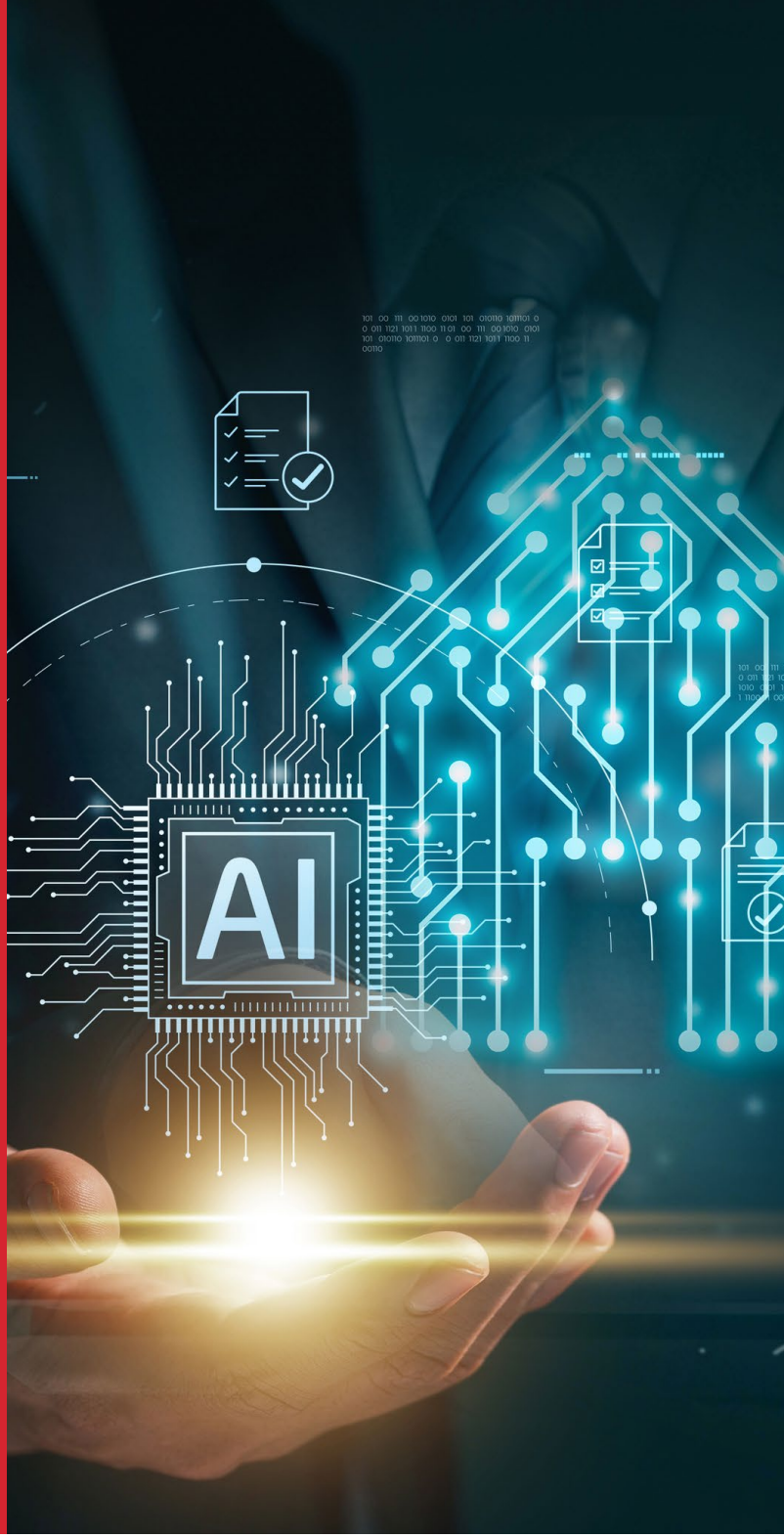
At Nexval.ai, we leverage AI to deliver customized solutions tailored to your industry's unique needs.

We're not just about technology **- we're about partnership.** We collaborate with your team to understand your processes and goals, ensuring a seamless transition and ongoing optimization.

Partner with us as **Affiliates** to bring AI-driven automation and cloud solutions to servicers-reducing costs, improving compliance, enhancing borrower experiences, and creating new revenue opportunities for your business.

Our expertise spans mortgage and financial services, with a focus on automation, IT, BPO, customer service, risk management, and AI-driven process optimization.

Let's transform your business with intelligent automation and data-driven strategies.



Innovation meets insight: Curated mortgage intelligence for an industry in constant motion. **Let's mortgage-better with AI.**

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