

Focus on AI:



Artificial Intelligence for Mortgage



Will Vickers
July 22, 2025

©2025 Arch Capital Group Ltd. All rights reserved.

1

What You Will Learn

1. Brief History of AI
2. What's a GPT and what can it do
3. Examples of AI use in mortgage
4. Importance of understanding AI risks



2

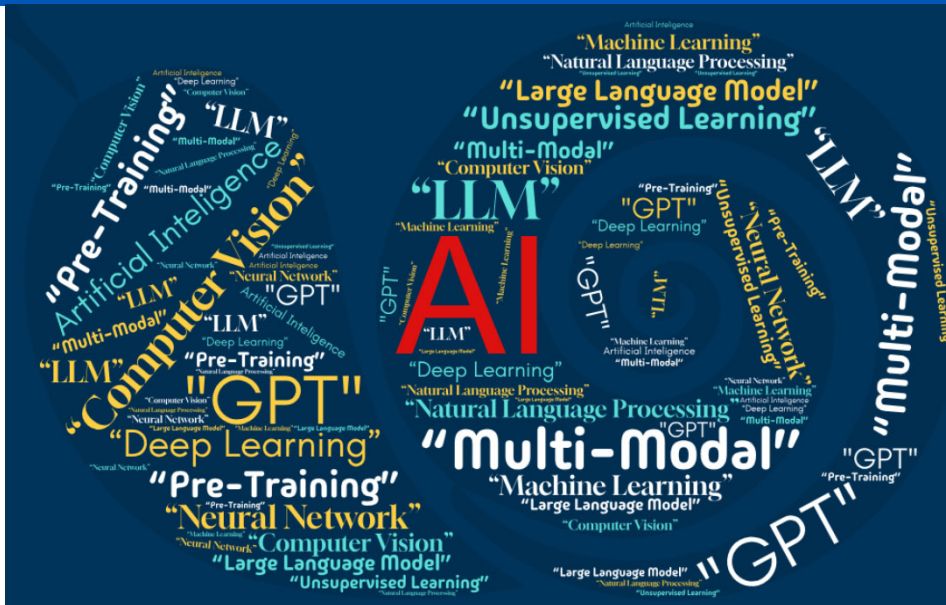
Legal Disclaimer

Arch Mortgage Insurance Company is providing this presentation for illustrative purposes and as a learning tool only. The material should not be relied upon for any purpose without independent verification and review by your in-house compliance and/or legal personnel.



3

The Building Blocks of Generative AI



4

New AI Vocabulary Words

“AI Agent” or “Agentic AI”

What is it?

An AI agent is a program that acts like a helper, making choices and doing tasks for you, often without needing to be told exactly what to do every time.

Is an AI Agent different from a rules engine?

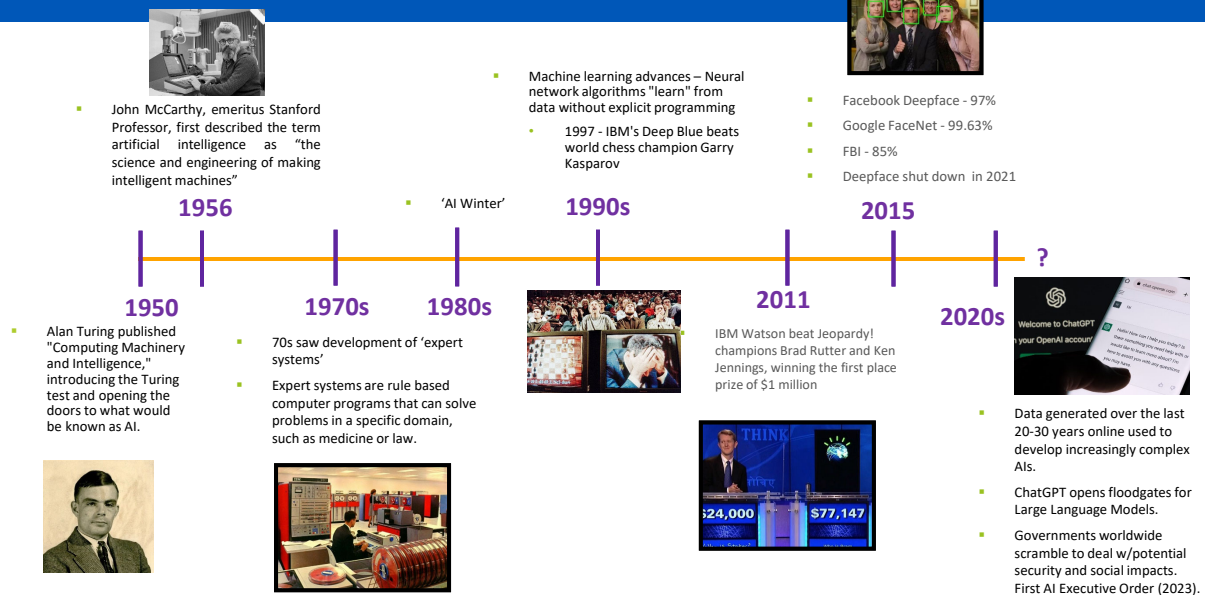
A **rules engine** follows a fixed set of **if-this-then-that** instructions. It does exactly what it's told, no more, no less.

An **AI agent**, on the other hand, can:

- **Learn from data or experience** (like past customer behavior),
- **Adapt to new situations** (even ones it wasn't specifically programmed for),
- **And make decisions** that aren't just based on hard-coded rules.

5

A Brief History of AI



6

Generative AI – The Next Evolution



ChatGPT

OpenAI



Sam Altman, CEO



Google



Sundar Pichai, CEO



Anthropic



Dario Amodei, CEO
Daniela Amodei, President

7

There's a Generative Tool For Every Need!

The Top 50 Gen AI Web Products, by Unique Monthly Visits

1. ChatGPT	11. Kimi	21. CIVITAI	31. Photoroom	41. Monica
2. deepseek	12. Hailuo AI	22. IIElevenLabs	32. Moescape AI	42. CURSOR
3. character.ai	13. Hugging Face	23. Sora	33. Midjourney	43. ideogram
4. perplexity	14. Poe	24. Crushon AI	34. candy.ai	44. GMB
5. JanitorAI	15. Adot	25. BLACKBOX AI	35. zeemo	45. Clipchamp
6. Claude	16. Eden AI	26. DeepAI	36. VEED	46. Meta AI
7. QuillBot	17. PolyBuzz	27. Gamma	37. invideo AI	47. StudyX
8. SUNO	18. SEARRT.AI	28. Leonardo.AI	38. Pixelcut	48. bolt
9. SPICYCHAT.AI	19. liner	29. cutout.pro	39. talkie	49. PicWish
10. Doubao	20. KLING AI	30. BRAINLY	40. PixAI	50. Joyland

Source: Similarweb, January 2025

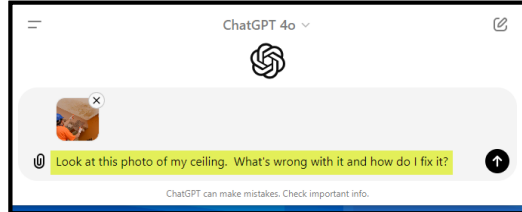
Charts are for informational purposes only. Past performance is not indicative of future results. None of the above should be taken as investment advice; see a16z.com/disclosures.



8

What Can ChatGPT-4o Do?

ChatGPT-4o can interpret photos!



The image shows a ceiling with water damage, evident from the brown stains and discoloration. This is typically caused by a leak or moisture issue from above, such as a leaking roof, plumbing problem, or condensation.

Steps to Fix the Water Damage:

- Identify and Repair the Source of the Leak:**
 - Inspect the roof, plumbing, or any potential sources of water above the damaged ceiling.
 - Fix the leak to prevent further damage. This might require professional help if it's a significant issue.
- Dry the Affected Area:**
 - Use fans, dehumidifiers, and proper ventilation to thoroughly dry the area.
 - Ensure the ceiling is completely dry before proceeding to prevent mold growth.
- Remove Damaged Material:**
 - Cut out the damaged portion of the ceiling if it's severely compromised. Use a utility knife or a saw.
 - If the damage is superficial, you can clean the area using a mixture of bleach and water (1 part bleach to 3 parts water) to kill any mold or mildew.
- Repair the Ceiling:**
 - For small areas, you can use a patching compound or spackle to cover the damage. Smooth it out with a putty knife.



Source: ChatGPT 4o

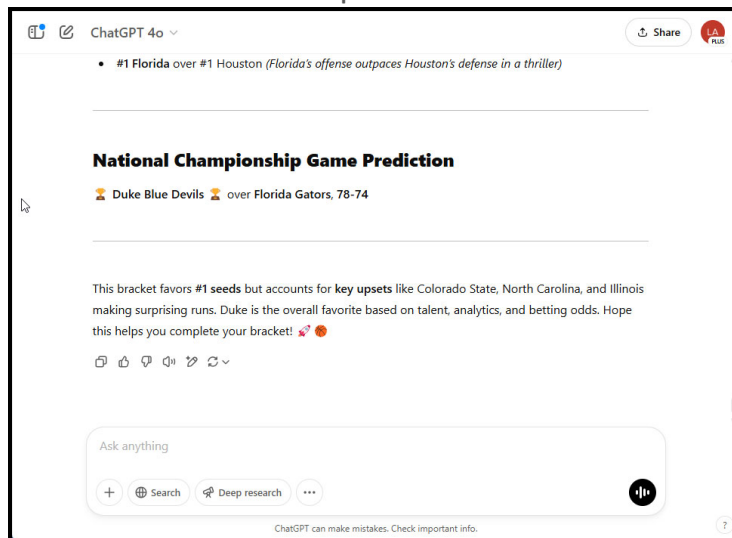
©2025 Arch Capital Group Ltd. All rights reserved.

9

9

What is Deep Research?

ChatGPT-4o Deep Research



Source: ChatGPT 4o

©2025 Arch Capital Group Ltd. All rights reserved.

10

10

ChatGPT – Build your own GPT

Coffee Follow-Up Text (after initial meeting or event)

Hey [First Name], I really enjoyed connecting the other day — you've got a great handle on the market. If any of your buyers hit financing roadblocks or need a strong pre-approval, I'm happy to jump in with speed + clarity.

Also, if you ever want help turning open house traffic into legit leads, I have some tech I can set you up with — no strings. Let me know!

Bonus: Voicemail Script (when calling to follow up)

"Hey [Agent First Name], this is [Your Name], a local mortgage advisor here in Tysons. I just wanted to follow up — I've got a few active buyers in your price range, and I'm looking to team up with a couple sharp agents who know the area. I also offer some cool extras like co-branded marketing and fast updates to keep your deals smooth. Give me a quick call back at [Your Number] — I'd love to learn a bit more about your business."

Want to play with the GPT?



For educational purposes only. Check with your legal and compliance department before adopting.

11

AI Use In Mortgage

12

Current Usage of AI in Mortgage

- **Document ID and Extraction** - Liberating data for analytical evaluation.
- **Image & Marketing Copy Generation** – Creating new marketing content in seconds.
- **Automation and Data Access**– Automating underwriting verification steps with agentic capabilities and enabling “data chatting”.
- **Chatbots** - Supporting customer service and guiding borrowers through the mortgage process.
- **Fraud Identification** - Analyzing large data sets to identify patterns of potential fraud.
- **Enforcing Compliance** –Automating the monitoring of transactions for rules like regulatory changes and lending regulations.
- **Loan Servicing Automation** – Enabling proactive delinquency management and borrower self-service options for forbearance or modification requests.

13

AI In Mortgage

Freddie Mac uses AI and Machine Learning algorithms to develop solutions for property condition and quality assessment.

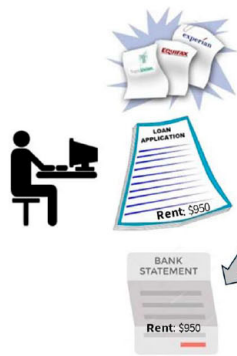
Understanding the type of **characteristics** to determine the **overall property quality** and **condition** are needed to understand **market expectations** and how that influences **value**.



14

AI In Mortgage

Fannie Mae uses AI and Machine Learning methods to identify rent streams in bank statements.



With the introduction of the **DU validation service**, lenders share 12-month Asset Reports to receive rep and warrant relief on validated asset information.

Using **AI/ML methods** and rent amount information provided by the lender we can read the bank statements and identify possible rent payment streams.

We can determine whether the borrower has likely made consistent monthly rental payments and incorporate this into Desktop Underwriter's® (DU®) credit risk assessment.

We can help lenders give the borrower the credit they deserve.

15

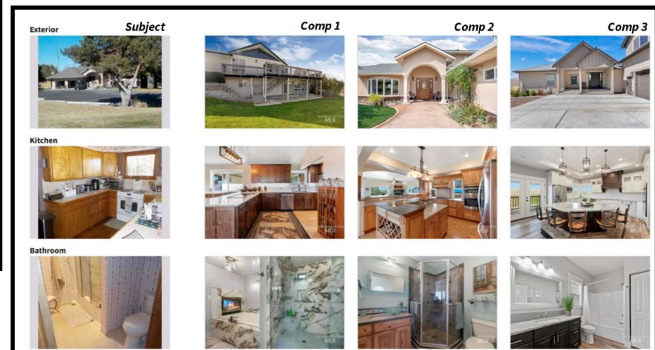
AI In Mortgage

Fannie Mae uses Computer Vision along with data in the Uniform Appraisal Dataset (UAD) to tag image files and make it easier for users to review the data.

BEFORE



AFTER



16

AI in Mortgage

- Insellerate CRM uses machine learning and generative AI to score mortgage call center conversations and suggest LO improvements to close more loans.



17

AI In Mortgage



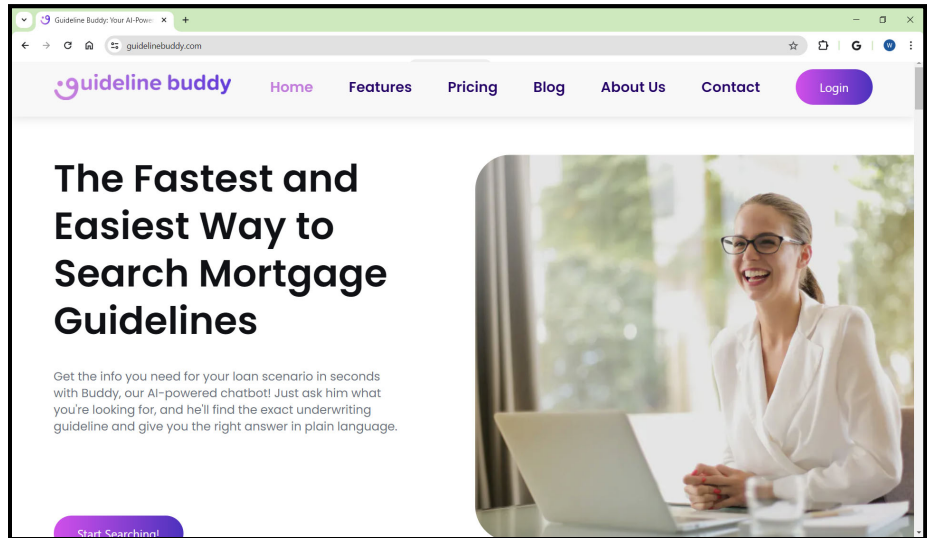
Cape Analytics uses Machine Learning and Computer Vision to create inspection-quality property condition data from aerial imagery for 100+ million structures across the US and Canada.



18

AI In Mortgage

Guideline Buddy uses generative AI to assist loan officers and operations staff with accessing and comprehending investor guidelines.



Source: <https://www.guidelinebuddy.com/>

©2025 Arch Capital Group Ltd. All rights reserved.

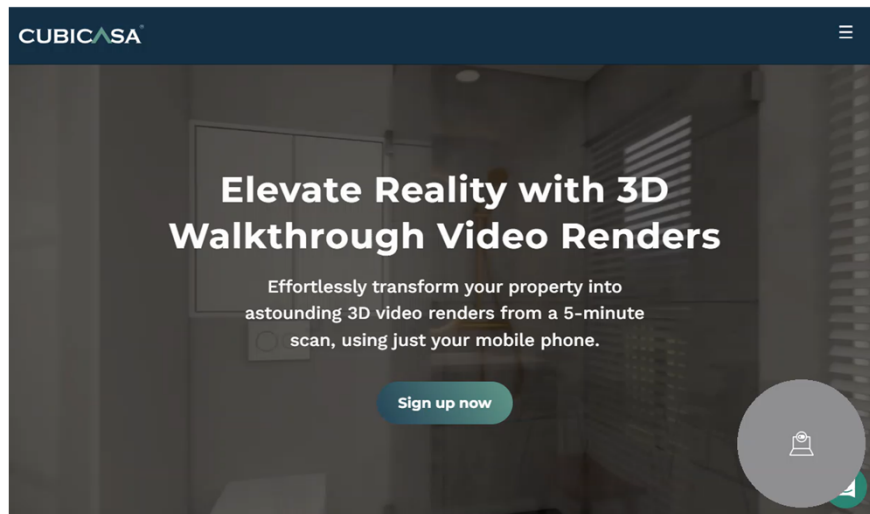
19

19

AI In Mortgage



CubiCasa uses computer vision and 5-minutes worth of photos from your smartphone to create measured floorplans and 3D property walkthroughs. They have the largest market share of any floorplan vendor.



Source: <https://www.cubi.casa/3d-walkthrough-video-renders/>

©2025 Arch Capital Group Ltd. All rights reserved.

20

20

AI In Mortgage



Rocket Mortgage launched “Rocket Logic” which uses generative AI and machine learning to gather and process loan documents, identify nearly 70% of docs submitted, and saving over 5000 underwriter hours per month.

Rocket Mortgage’s AI Technology: The Future of

National Mortgage News

Rocket Companies' embrace of AI shrunk workforce in 2024

By **Maria Volkova** March 05, 2025, 2:35 p.m. EST 2 Min Read

Rocket Companies saw its ranks shrink by the hundreds throughout 2024, as it ramped up investments into becoming more of a technology-centric company.

The company's **headcount** throughout 2024 **was partially adjusted due to its embrace of artificial intelligence tools**, a Rocket executive said during its **fourth quarter earnings call**.

"Head count was down a bit year-over-year," said Brian Brown, Rocket's chief financial officer.

"And really...[that] is the power of AI at work."

21

AI In Mortgage



Better Home & Finance launched “Betsy”, a voice-based AI loan assistant to help potential and current customers answer mortgage application questions and verify outstanding app data in real-time.

HOUSINGWIRE

MORE +

SIGN IN

SUBSCRIBE

Better launches voice-based AI loan assistant

The assistant, dubbed Betsy, was built through Tinman, the company's proprietary loan origination platform

October 17, 2024, 9:00 am By **Flavia Furlan Nunes**

Better Home & Finance, the parent company of digital lender **Better.com**, launched its voice-based **artificial intelligence** loan assistant on Thursday. According to the company, the assistant provides customers with “timely and accurate answers.”

The AI loan assistant, dubbed Betsy, was built through Tinman, the company's proprietary loan origination platform, where information and facts on loan applications are stored. **Better began partnering with big data firm Palantir** in 2022 to develop the platform.

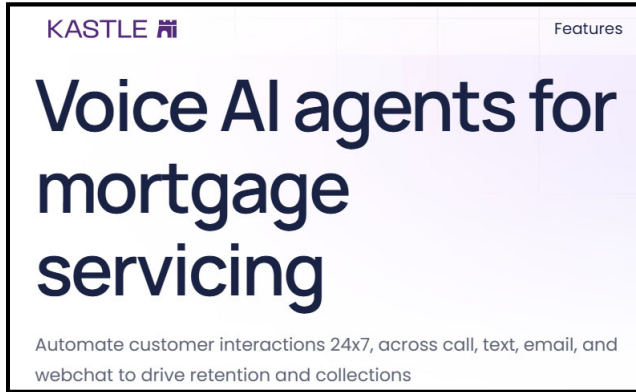
Better said its new tool **communicates with potential and current customers by answering mortgage application questions, verifying outstanding application data and connecting with Tinman in real time.**


22

AI In Mortgage

KASTLE

Kastle uses generative AI and AI-generated voices to provide customer support for servicing payment and escrow inquiries, collections activity and sales support, and reducing the cost-per-call by 80%.



KASTLE  Features

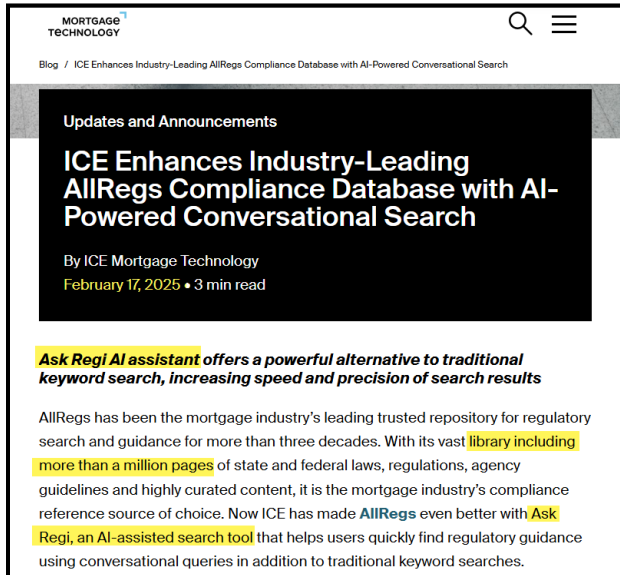
Voice AI agents for mortgage servicing



Automate customer interactions 24x7, across call, text, email, and webchat to drive retention and collections

AI In Mortgage

Mortgage Technology™

Ask Regi is a new AI-assisted search tool to help users quickly find regulatory guidance using tool that helps users search for information contained in over a million pages of laws, guidelines and regulations inside AllRegs® by ICE Mortgage Technology®.



MORTGAGE TECHNOLOGY  

Blog / ICE Enhances Industry-Leading AllRegs Compliance Database with AI-Powered Conversational Search

Updates and Announcements

ICE Enhances Industry-Leading AllRegs Compliance Database with AI-Powered Conversational Search

By ICE Mortgage Technology
February 17, 2025 • 3 min read

Ask Regi AI assistant offers a powerful alternative to traditional keyword search, increasing speed and precision of search results

AllRegs has been the mortgage industry's leading trusted repository for regulatory search and guidance for more than three decades. With its vast **library including more than a million pages** of state and federal laws, regulations, agency guidelines and highly curated content, it is the mortgage industry's compliance reference source of choice. Now ICE has made **AllRegs** even better with **Ask Regi**, an **AI-assisted search tool** that helps users quickly find regulatory guidance using conversational queries in addition to traditional keyword searches.

AI In Mortgage



Optimal Blue “Originator Assistant” uses generative AI to suggest changes to the loan structure to help the borrower obtain a more affordable product and making the lender more competitive.

Rate Search Results

OB Loan Number: 85 OB Status: Prospect Loan Notes: [1 Note](#)

Product: Investor Q - Fixed 30yr (104)

Originator Assistant has identified 3 scenarios for this product that might improve the rate and or/price for this loan.

SCENARIO	PROPOSED CHANGE	RATE	PRICE	DISCOUNT/REBATE
Loan Scenario Current	N/A	6.125%	100.185	-0.185% (\$1,332)
<input type="checkbox"/> Increase Loan Level FICO to 681	Loan Level FICO 680 => 681	6.125%	100.310	-0.310% (\$2,232)
<input type="checkbox"/> Decrease Base Loan Amount to \$712,000	Base Loan Amount \$720,000 => \$712,000	6.125%	100.310	-0.310% (\$2,207)
<input type="checkbox"/> Decrease DTI Ratio to 19.000%	DTI Ratio 20.000% => 19.000%	6.125%	100.310	-0.310% (\$2,232)



Source: Optimal Blue <https://youtu.be/KtwDrDUh1nM>

©2025 Arch Capital Group Ltd. All rights reserved.

25

AI In Mortgage



Optimal Blue “Ask Obi”, a generative AI-powered tool that creates an interactive hub where executives and administrators use conversational text input to gain insights across all Optimal Blue products and data.

askObi
OPTIMAL BLUE INTELLIGENCE

My Questions

Search my questions and answers

What was the total lock volume for Q4 2024?
 Compare total lock volumes between Q3 and Q4 2024
 What is the percentage breakdown of loans locked by loan type in December 2024?

What is the percentage breakdown of loans locked by loan type in December 2024?

In December 2024, the percentage breakdown of loans locked by loan type was as follows:

- Conforming Fixed: 51.53%
- FHA Fixed: 24.08%
- VA Fixed: 10.61%
- NonConforming Fixed: 7.34%
- NonConforming ARM: 2.07%
- Conforming ARM: 2.87%
- USDA Fixed: 0.90%
- Conforming Balloon: 0.29%
- NonConforming Balloon: 0.07%
- Alt-A/Exp. Crit. ARM: 0.02%
- FHA ARM: 0.12%
- Alt-A/Exp. Crit. Fixed: 0.03%
- VA ARM: 0.07%

This analysis covers the period from 12/01/2024 to 12/31/2024.



Source: Optimal Blue <https://youtu.be/KtwDrDUh1nM>

©2025 Arch Capital Group Ltd. All rights reserved.

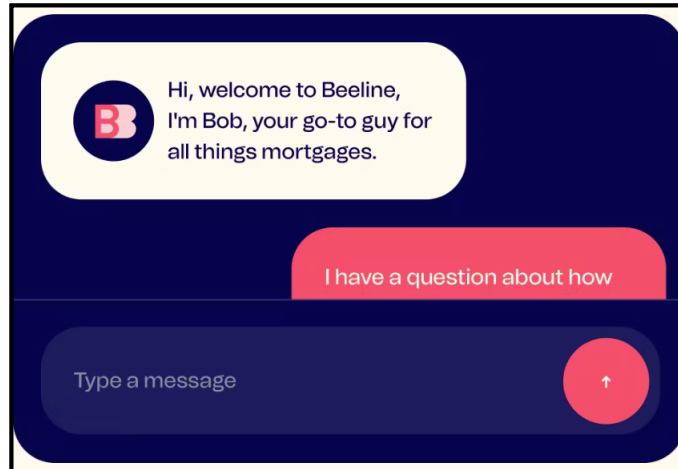
26

AI In Mortgage

| BEELINE

Beeline Holdings' Bob 2.0 is among the first ever AI Mortgage sales bots that can

- Guide users through personalized sales journeys
- Maintain focus in conversations, handling interruptions with precision
- Retain and apply user-provided details
- Recognize buyer motivations, responding in a way that builds trust and engagement
- Support Spanish-language interactions, automatically adapting based on user preferences



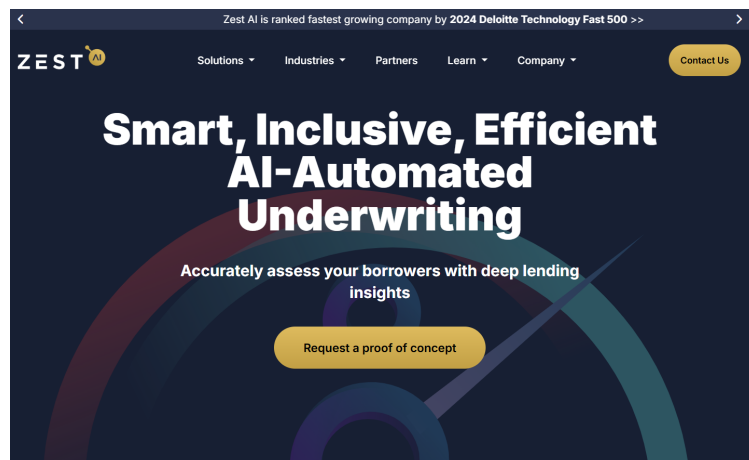
27

AI In Mortgage

ZEST AI

Zest AI offers an AI-powered underwriting platform for consumer lending. Website lists users:

- **Commonwealth Credit Union** – Reduced delinquencies by 30–40%.
- **TruLiant FCU** – Reduced decision times.
- **Reliable Credit Association** – Improved risk assessment and pricing consistency.
- **Clark County Credit Union** – Benefits from Zest's continuous innovation.
- **VyStar Credit Union** – Increased approvals by 22%, added \$40M in annual credit.
- **First Hawaiian Bank** – Achieved 10x automation with tailored models.
- **Redstone FCU** – Built custom models to safely approve more members.



28

AI In Mortgage



United Wholesale Mortgage (UWM) launched two new AI-powered tools at their recent broker conference: Mia and LEO.

Mia

- A voice bot who can act as a personal assistant to field questions, schedule appoints and take messages.
- Can also contact consumers 20 days after closing to remind them to make their first payment or to notify about refinancing opportunities.

LEO

- Allows LOs to drag and drop a loan estimate from a competitor into LEO to generate opportunities to beat the offer with talking points to explain to the customer.

National Mortgage News

UWM rolls out two AI-powered tools to give brokers edge

By [Maria Volkova](#) May 15, 2025, 4:55 p.m. EDT 2 Min Read

United Wholesale Mortgage announced the rollout of **two artificial intelligence-powered tools** designed to give mortgage brokers an added edge in competing for and retaining borrower business.

One of the tools is an **AI-powered voice bot named Mia**, which acts as a **personal assistant** for brokers. The other tool, called **LEO**, helps brokers **present more competitive loan offers** to borrowers than those offered by rival wholesale lenders.



Source: <https://www.nationalmortgage.com/news/uwm-equips-brokers-with-ai-tools-to-retain-clients-compete>

©2025 Arch Capital Group Ltd. All rights reserved.

AI In Mortgage



Tidalwave SOLO™ is a new conversational POS tool that uses generative AI and large language models to guide borrowers through the mortgage selection, application and approval process.

Press Book a demo

The Only Agentic AI Mortgage POS+

Simplify the borrower application. Eliminate mundane processes. Achieve perfect data quality.

Explore features ↓
Book a demo >





Source: Tidalwave.ai

©2025 Arch Capital Group Ltd. All rights reserved.

AI In Mortgage


- **LOS vendors** offer underwriting acceleration tools that use Machine Learning and Computer Vision to extract data from various loan sources and direct the underwriter to areas that need further research.






Touchless Income

Automated employment calculation and verification



Touchless Credit


Automated analysis and review of credit across all borrowers



Touchless Collateral


Automated underwriter appraisal review process

Source: <https://www.tavant.com/finetech/touchless-lending>



AIVA[®] Assist


Source: <https://dmatter.com/>




Debt Optimization Demo


Patent US 11,250,505

Source: <https://pages.meridianlink.com/tv/ty-mortgage-demo-videos>





Source: <https://mortgageetech.ice.com/products/mortgage-analyzers>



©2025 Arch Capital Group Ltd. All rights reserved.

31

31



AI Risks and Challenges



©2025 Arch Capital Group Ltd. All rights reserved.

32

AI Risks

When adopting AI in the mortgage industry, it's crucial to be aware of potential risks and challenges.

Data Privacy and Security Risks

- Inadequate data protection can lead to data breaches, which can have severe consequences for both customers and the Lender.

Bias and Fair Lending Concerns

- AI models can inherit biases present in historical data, potentially leading to discriminatory lending practices.
- Audit and retrain AI models regularly to ensure they don't discriminate against any demographic groups and comply with fair lending laws.

Model Transparency and Interpretability

- Black-box AI models can be challenging to interpret and explain.
- Lack of transparency can make it difficult to understand the rationale behind lending decisions.

Over-Reliance on AI

- Strike a balance between automation and human intervention to mitigate potential errors and issues that AI might miss.

Regulatory Compliance

- Using AI in mortgage processes must comply with all applicable regulations including ECOA, TILA, RESPA, FCRA ..etc to avoid legal consequences.

Ethical Considerations

- Ethical issues can arise when AI is used for decision-making in the mortgage industry.
- Ensure that the use of AI is guided by ethical principles and that it prioritizes the best interests of the borrowers, including transparent communication and fair treatment.

AI Risks

The Double-Edged Sword of AI: Efficiency vs. Risk

<https://www.nytimes.com/2025/05/05/technology/ai-hallucinations-chatgpt-google.html>

<https://futurism.com/anthropic-ceo-admits-ai-ignorance>

https://futurism.com/openai-anthropic-xai-grok-scandal?utm_source=flipboard&utm_content=other

<https://www.nationalmortgagenews.com/news/wells-fargo-wants-judgment-in-mortgage-discrimination-suit>

<https://www.wired.com/story/north-korean-hacker-hired-ecurity-company-malware/>

<https://www.theguardian.com/world/2024/feb/16/ai-canada-chatbot-lawsuit>

<https://www.hollywoodreporter.com/business/business-news/ai-generated-george-carlin-special-ignites-copyright-infringement-lawsuit-1235807439/>

AI In Mortgage



Chase employs over 2000 AI and machine learning experts and has been using AI for 10 years in marketing, fraud and risk.

make it

Jamie Dimon says AI could be as transformative as electricity or the internet—here’s how to invest

Published Tue, Apr 9 2024 8:00 AM EDT

Cheyenne DeVon SHARE

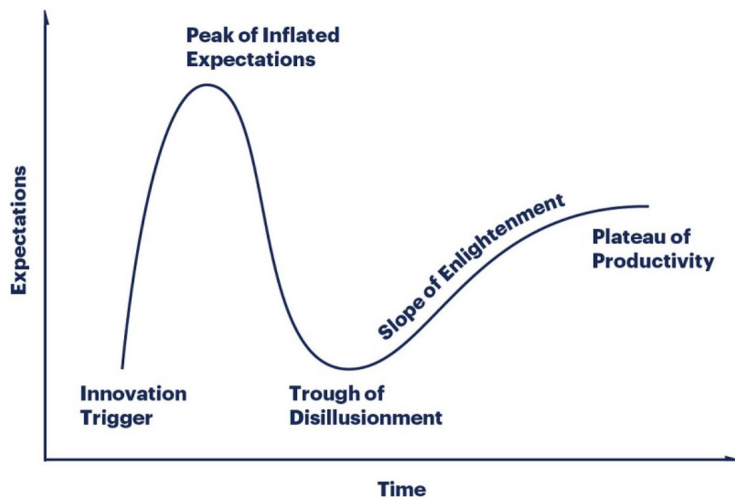
JPMorgan Chase CEO and chairman Jamie Dimon believes artificial intelligence innovations will have as big of an impact on society as the invention of electricity and the internet.

JPMorgan Chase began using AI over a decade ago, Dimon said in the letter. The firm employs over 2,000 AI and machine learning experts and data scientists and uses the technology across a number of divisions, including marketing, fraud and risk. Additionally, JPMorgan Chase invests \$12 billion annually in a wide variety of technologies, including AI.

35

Is AI “Fully Mature”?

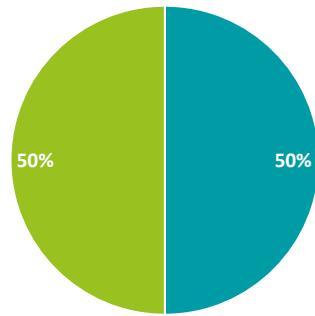
Gartner Group “Hype Cycle” S-Curve



36

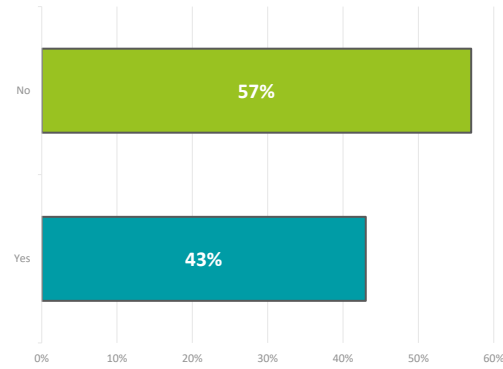
Is Your Company Behind?

Has your company provided AI education to executive management?



■ Yes ■ No

Does your company have policies in place governing the use of AI?



■ Yes ■ No

Source: MBA's 2023 Technology Survey

37

Summary



- ✓ Don't be discouraged.
- ✓ Examine your policies to ensure AI safety and risks have been addressed.
- ✓ Develop a keen eye for AI-related news and uses in mortgage, banking and finance.
- ✓ If you're not already experimenting with AI, you're already behind.
- ✓ Be mindful of **BOTH** possibilities and risks.

38

I am a free resource for Arch MI clients

Call or email for assistance with:

- LOS, PPE, POS shopping
- Customer reference introductions
- Integration support

Will Vickers
VP, Industry Technology
336-486-1421
wwickers@archmi.com

