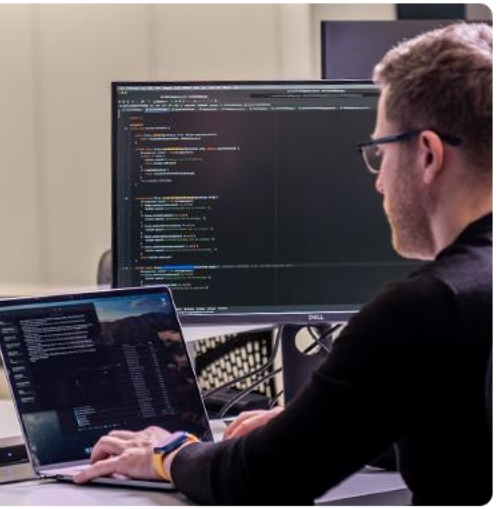
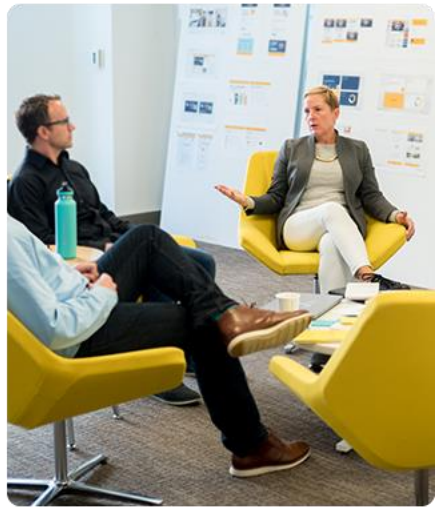
Liberty Information Technology

Transforming CX

Building Quality Experiences with AI

Graeme Brown, Saurab Chandel





About Liberty IT

We're the driver behind #86 Fortune-ranked company, Liberty Mutual Insurance's global digital enablement journey, reimagining insurance for our customers at the time when they need us most.

29
countries and economies

more than **50,000**
global employees

$50 billion
annual consolidated revenue

5th
largest global P&C insurer

Great Place To Work. Certified NOV 2023-NOV 2024 UK

Silver Diversity Mark

aws HEROES

AWS community builder

BUSINESS IN THE COMMUNITY

Customer

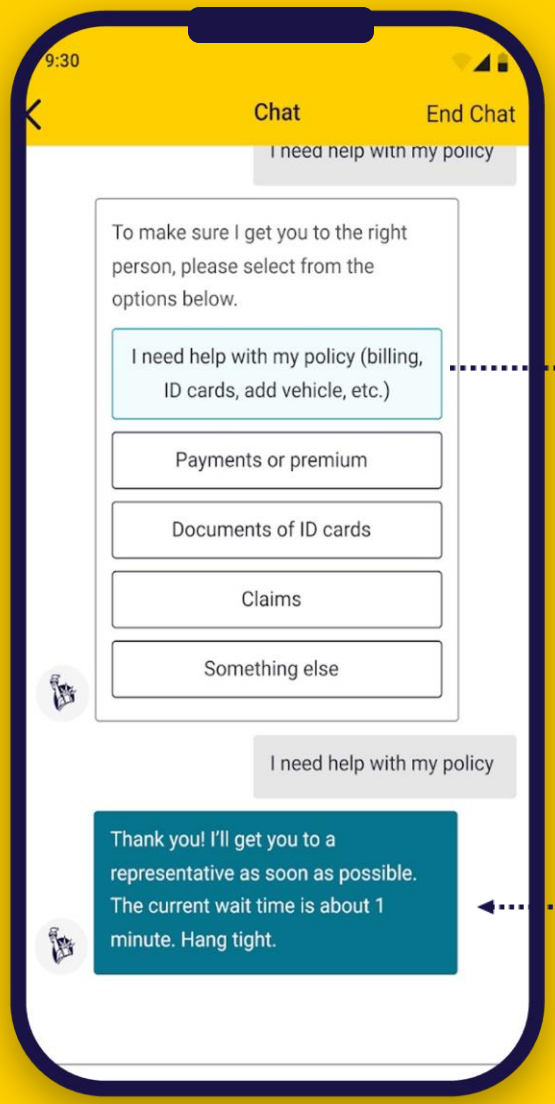
Telephony | IVR

SMS | Messaging

Online | Webchat

Native | Mobile App

Email | Digital Comms



1 Request

2 Response

Claims help and resources

How to file and track your claim

Q: How do I file a claim online?

A: We understand that this may be a stressful time for you. That's why we've worked to make online filing as fast and frictionless as possible.

Click on the link below to get started. From there, we'll guide you the process one step at a time so that nothing is missed along the way.

Update your info

Q: How do I track my claim online?

A: Once you've filed your claim, you can track its progress via the Liberty Mutual eService portal. Do you have an open claim?

Manage your claim

Why you should file online

Glass repair claims

Claims for Non-Liberty Mutual customers

Claims Payments

Virtual Assistant Helping During Hurricanes

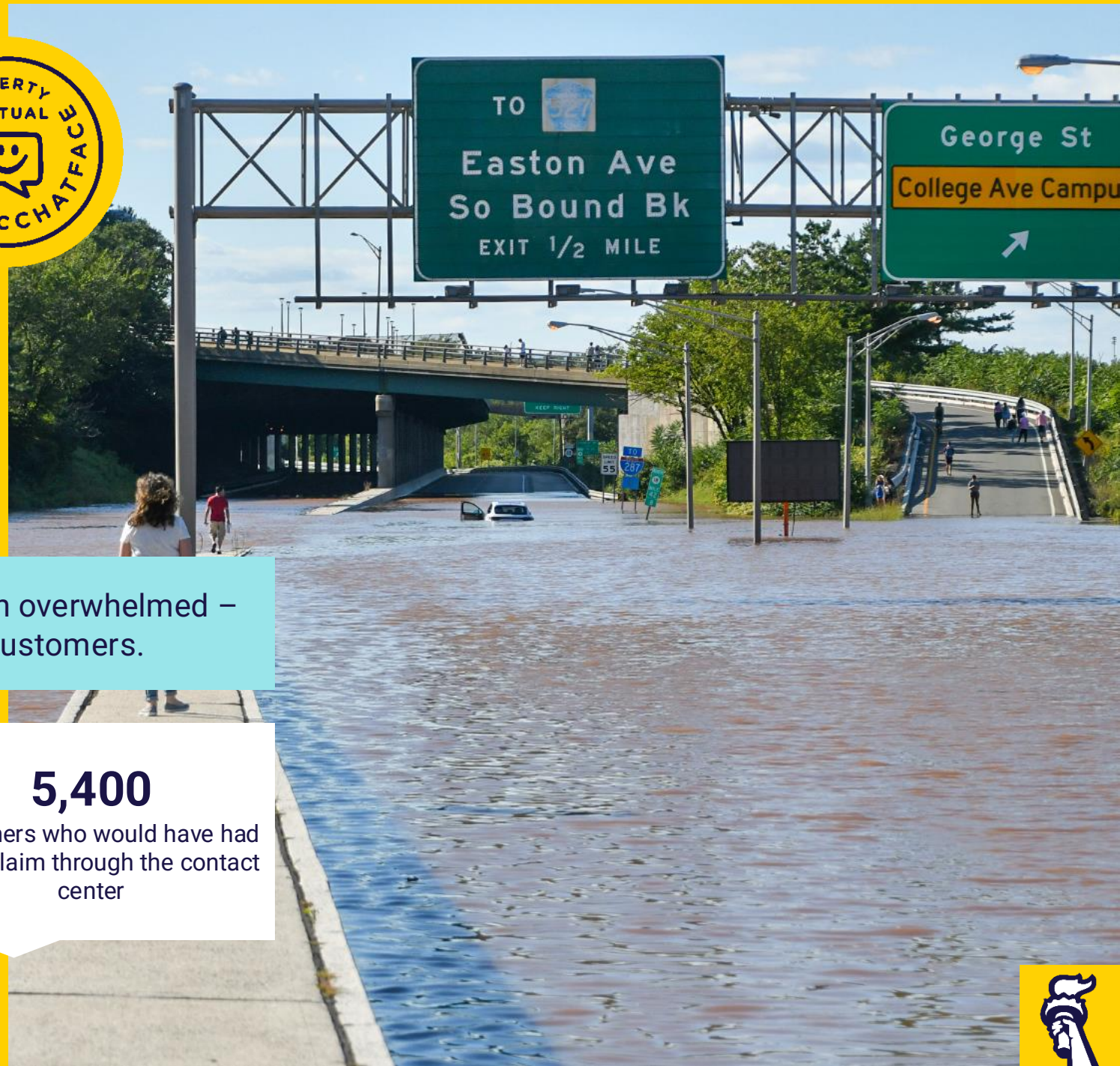
Liberty IT can be proud of the way our technology performed during our customers time of need.

During Hurricanes, call centers are often overwhelmed – meaning long waiting times for customers.

2,450
claims filed

2,940
claims filed online after an SMS offer

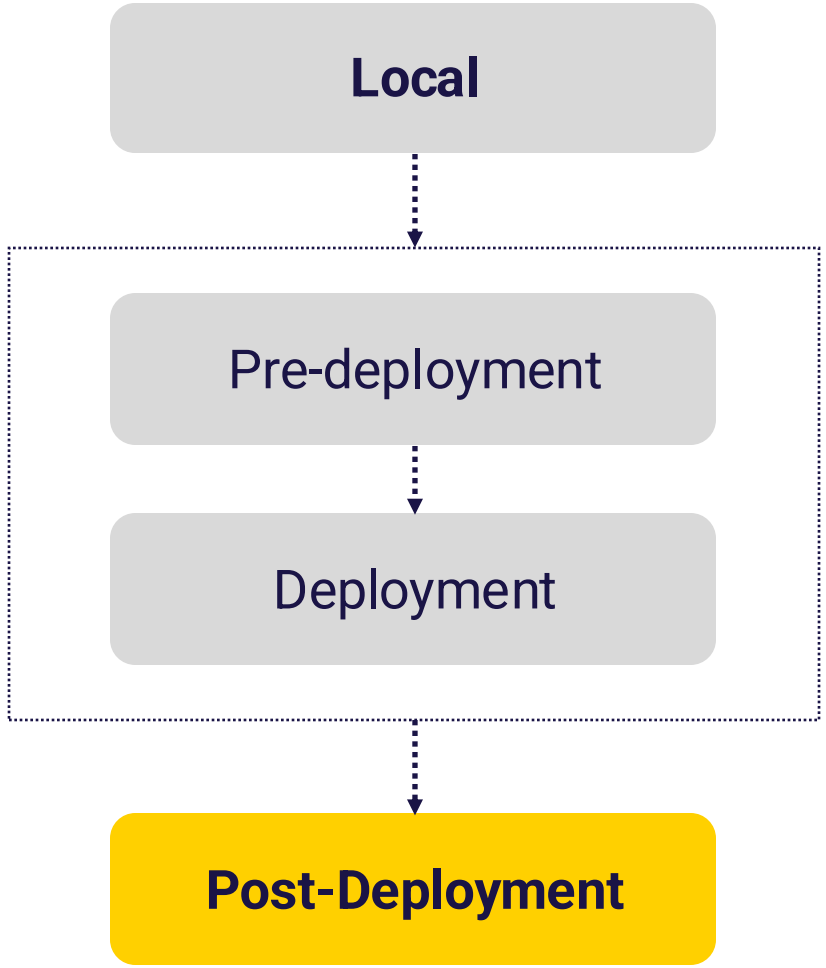
5,400
customers who would have had to file claim through the contact center



Pipeline

Continuous Integration / Delivery (CI/CD) Pipeline:

- **Managed AI service**
- **Post-deployment validation**



Behaviour Driven Development

Validate executable specifications against our deployed experiences:

- **Intent Recognition**
- **End-to-end Conversational Flow**
- **CI/CD Pipeline Integration**
- **Report Generation**

Feature: Transfer Intent Smoke Test

Scenario: Anonymous requests a call back

Given the user is "Anonymous"
And the user begins a new chat with "Bot"

* **User:** I would like a representative to call me back.
* **Bot:** Sure. Can we use the telephone number on file?

Then lex.sessionState.intent.name = "TransferIntent"
And lex.sessionState.dialogAction.type = "ElicitSlot"
And lex.sessionState.dialogAction.slotToElicit = "Method"

* **User:** Yes, please.
* **Bot:** Thank you. An agent will be with you soon.

Then lex.sessionState.intent.name = "TransferIntent"
And lex.sessionState.dialogAction.type = "Close"

Behaviour Driven Development

Validate executable specifications against our deployed experiences:

- **Intent Recognition**
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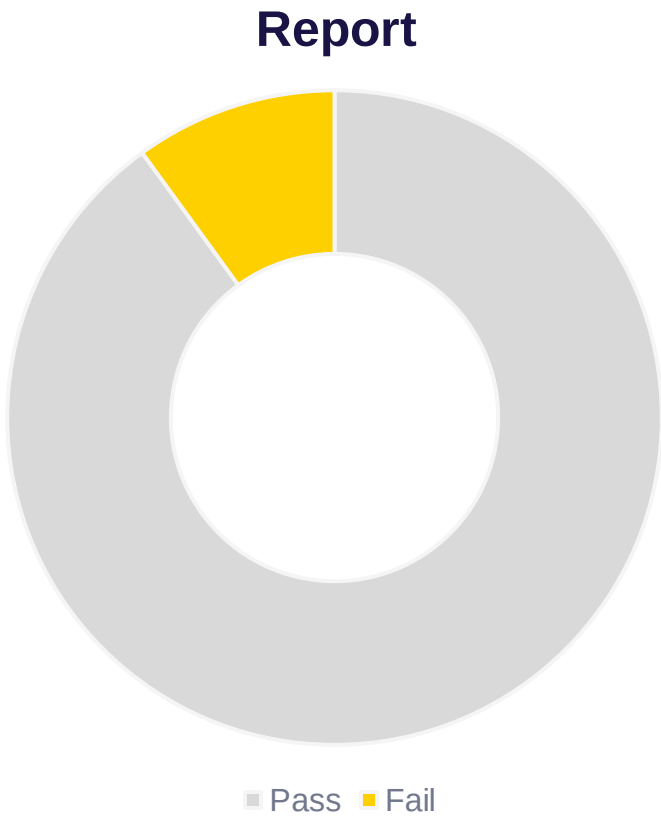
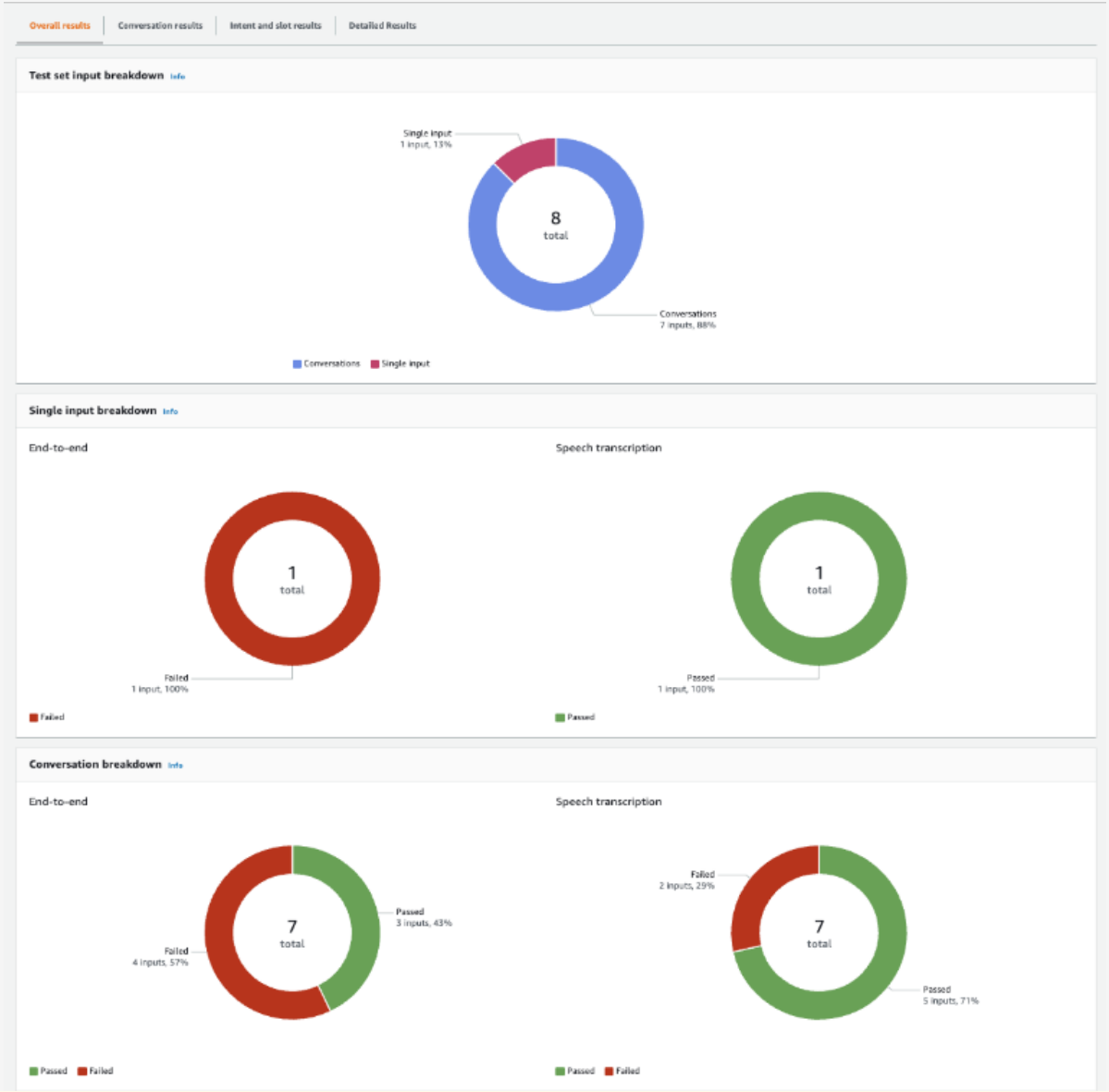


Amazon Lex Test Workbench

You can test bots to **evaluate performance** before deployment, and view test result breakdowns at scale.

Amazon Web Services
https://docs.aws.amazon.com/lexv2/latest/dg/test-workbench.html



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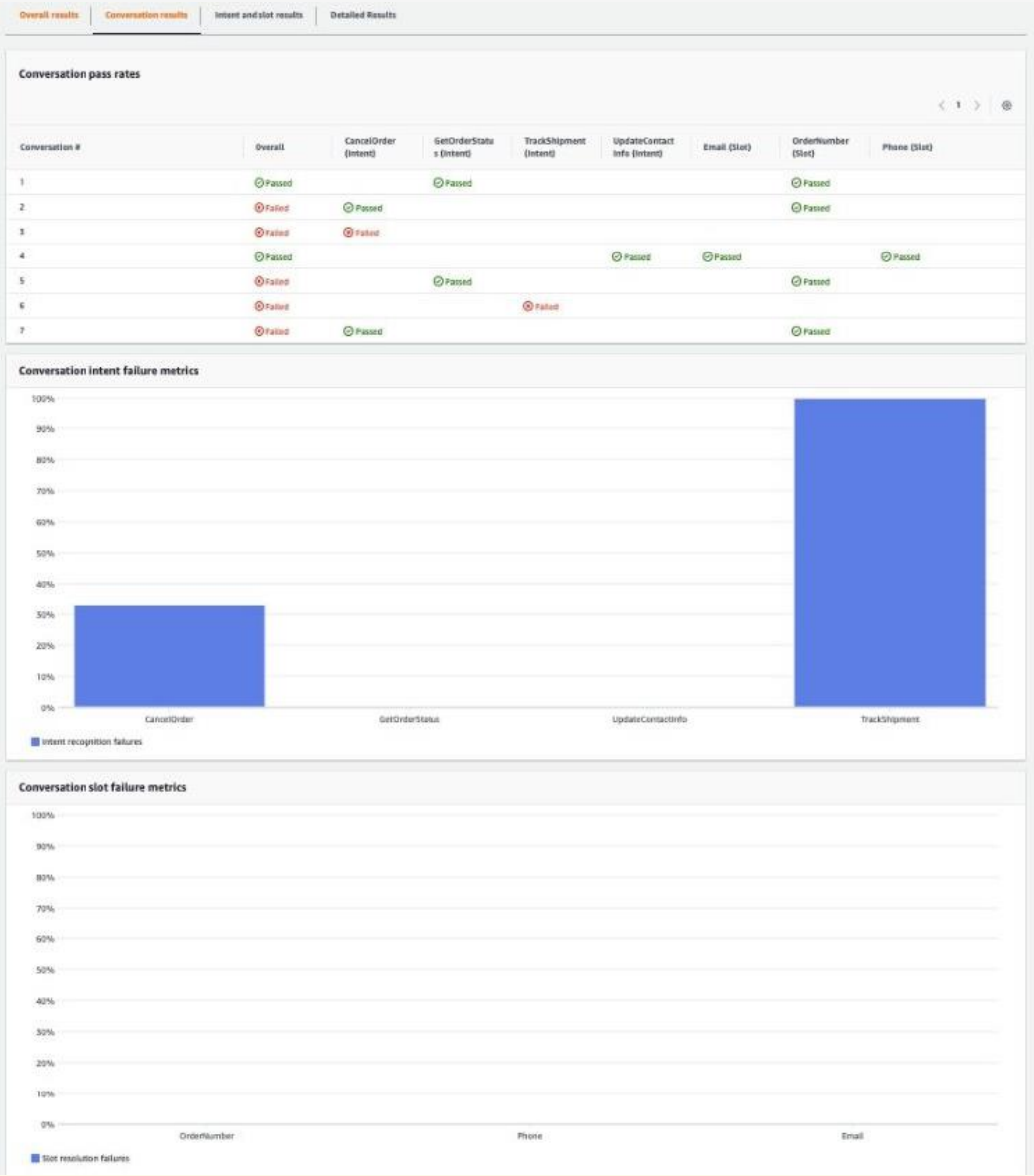


2ZGYIV11P5

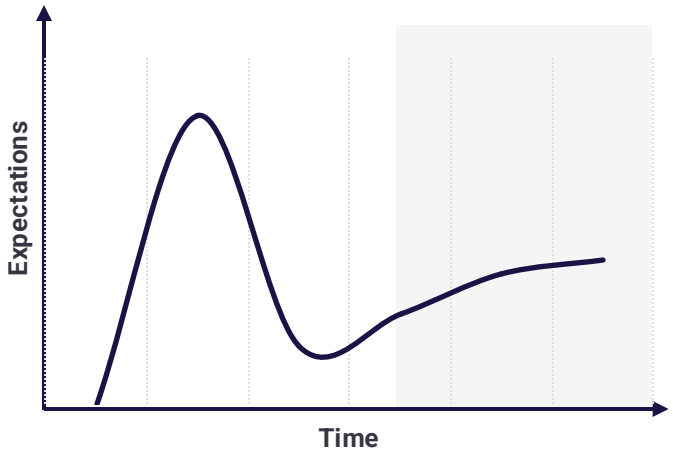
Test details

Completed on 28 days ago	Status Complete	Tested bot cogl-genai-challenge-n1642264	Endpoint NonStreaming
Test type Text	Test set cogl-genai-challenge-test-set	Tested alias cogl-genai-challenge-n1642264-alias	Language English (US)

Intents used (20) Info

Intent	Slots
ClaimCreateIntent	AnimalType, LossCause, PolicyNumber, PropertyContents, PropertyPart, PropertyRoom, PropertyType, RelativePosition, RoadUser, StationaryObject, VehiclePart, VehicleType, WeatherCondition
ClaimStatusIntent	ClaimNumber, FamilyMember, FirstName, PolicyNumber
FallbackIntent	-
GetRoadsideAssistanceIntent	RelativePosition, StreetName1, StreetName2, VehiclePart, VehicleType
HelpIntent	-
PaymentCancelIntent	-
PaymentCheckStatusIntent	PaymentAmount
PaymentMakePaymentIntent	FamilyMember, PaymentAmount, PaymentMethod
PaymentQueryPremiumRateIntent	PaymentAmount, PercentageAmount
PaymentUpdateDetailsIntent	-

Hype Cycle



Gartner Research

https://www.gartner.com/en/documents/5505695

Gartner Research

Hype Cycle for Artificial Intelligence, 2024

Published: 17 June 2024

Summary

Investment in AI has reached a new high with a focus on generative AI, which, in most cases, has yet to deliver its anticipated business value. This research helps AI leaders identify other techniques worthy of investment by profiling a wide range of AI innovations, many of which are advancing fast.

Included in Full Research

Analysis

Appendixes

Gartner Recommended Reading

What You Need To Know

Overview

"Generative AI (GenAI) has **passed the Peak of Inflated Expectations**, although hype about it continues. In 2024, more value will derive from projects based on other AI techniques, either stand-alone or in combination with GenAI, that have standardized processes to aid implementation."

Gartner Research
https://www.gartner.com/en/documents/5505695

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Key Takeaway

"To deliver maximum benefit, AI leaders should base future system architectures on **composite AI techniques** by combining approaches from innovations at all stages of the Hype Cycle."

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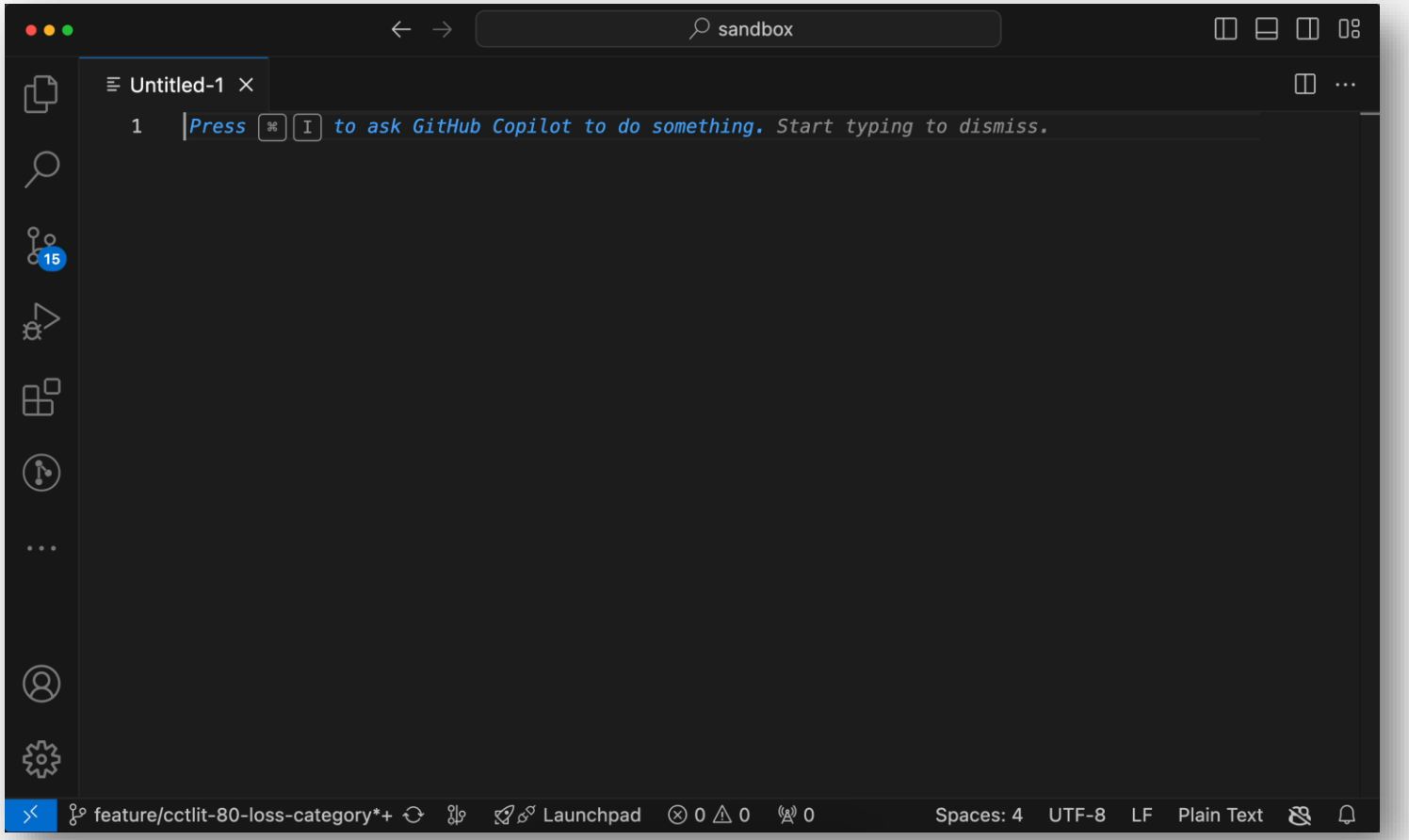
Use Case

Apply Generative AI to accelerate test set **generation**, **annotation** and **validation**.

#	Utterance	Intent Name
1	I need help to file a **claim**.	CreateClaim
2	What **documents** do I need to provide for a claim?	ClaimDocuments
3	How can I add a **new driver** to my policy?	AddDriver
4	Can you help me update my **contact information**?	UpdateContactInfo
5	Where do I go to update my **coverages**?	UpdateCoverage
…	…	…

Prompt

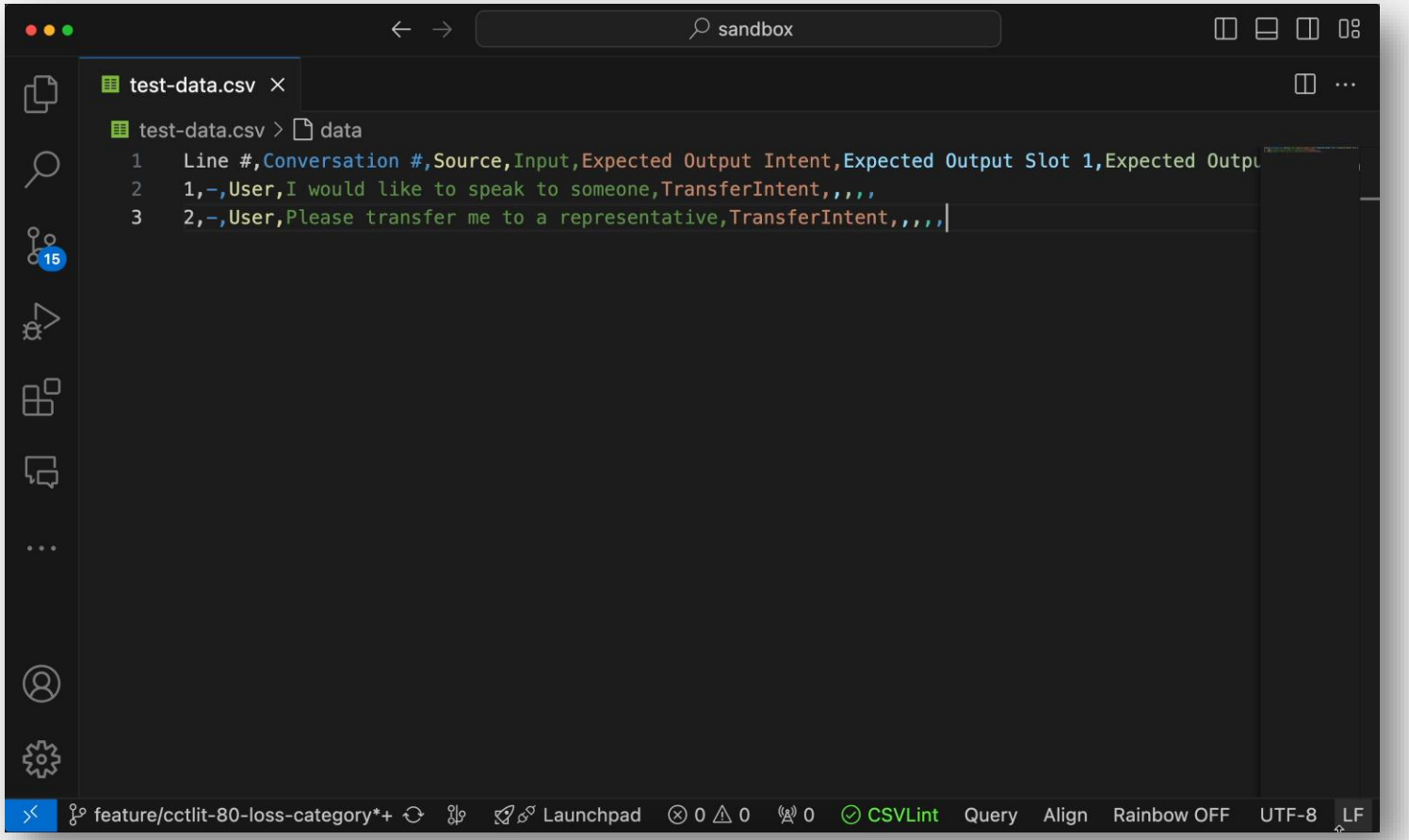
“Provide **100 utterances** you may say when speaking to an insurance chatbot.”



Prompt

"You are a **Liberty Mutual insurance customer**. You started to open a **claim online** and would now like to **speak** to an insurance professional.

Provide **100 different utterances** you may say when speaking to a **telephony** chatbot."

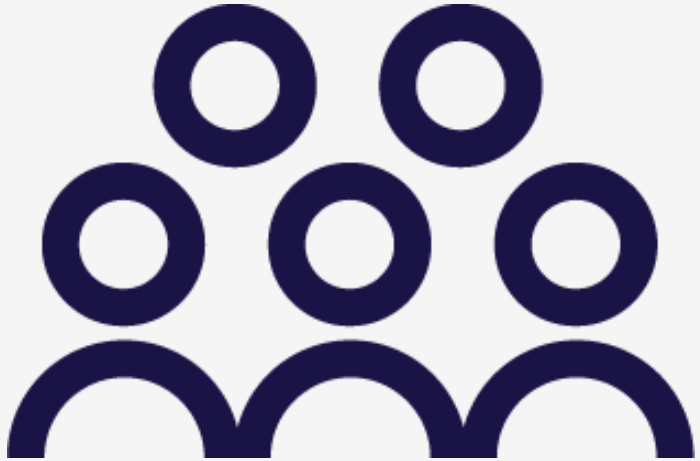


Customer Personas

You are a **Liberty Mutual insurance customer**:

- You started to open a **claim online** and would now like to **speak** to an insurance professional.
- You are having **difficulty hearing** and need the last response repeated.

Provide **100 different utterances** you may say when speaking to a **telephony** chatbot.



GenAI Challenge

“An unseen **test dataset** will be **generated** using ChatGPT. The dataset will be in a CSV format supported by the Amazon Lex Test Workbench.

At the end of the challenge, the **unseen test set** will be run against each successfully deployed chatbot.”

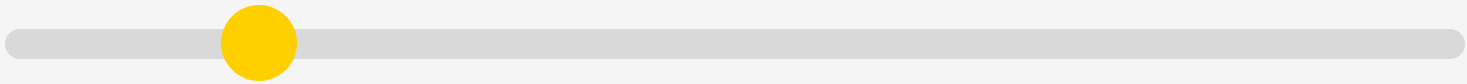
Model Settings

Fine-tuning lets you get more out of the models available through the API by providing:

- **Higher quality** results than prompting alone
- **Token savings** due to shorter prompts

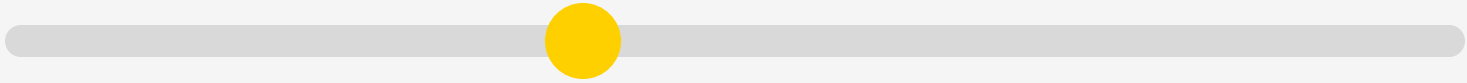
OpenAI
https://platform.openai.com/docs/guides/fine-tuning

Temperature



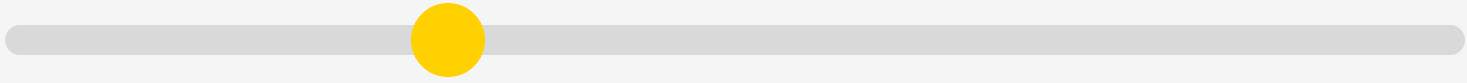
Precise — Creative

Presence Penalty



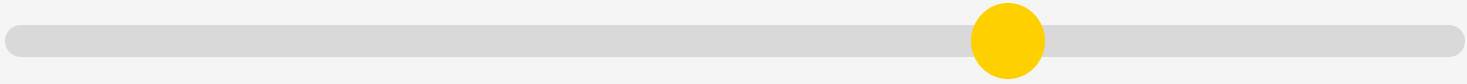
Balanced — Open-minded

Frequency Penalty



Balanced — Less Repetition

Top-P (Nucleus Sampling)

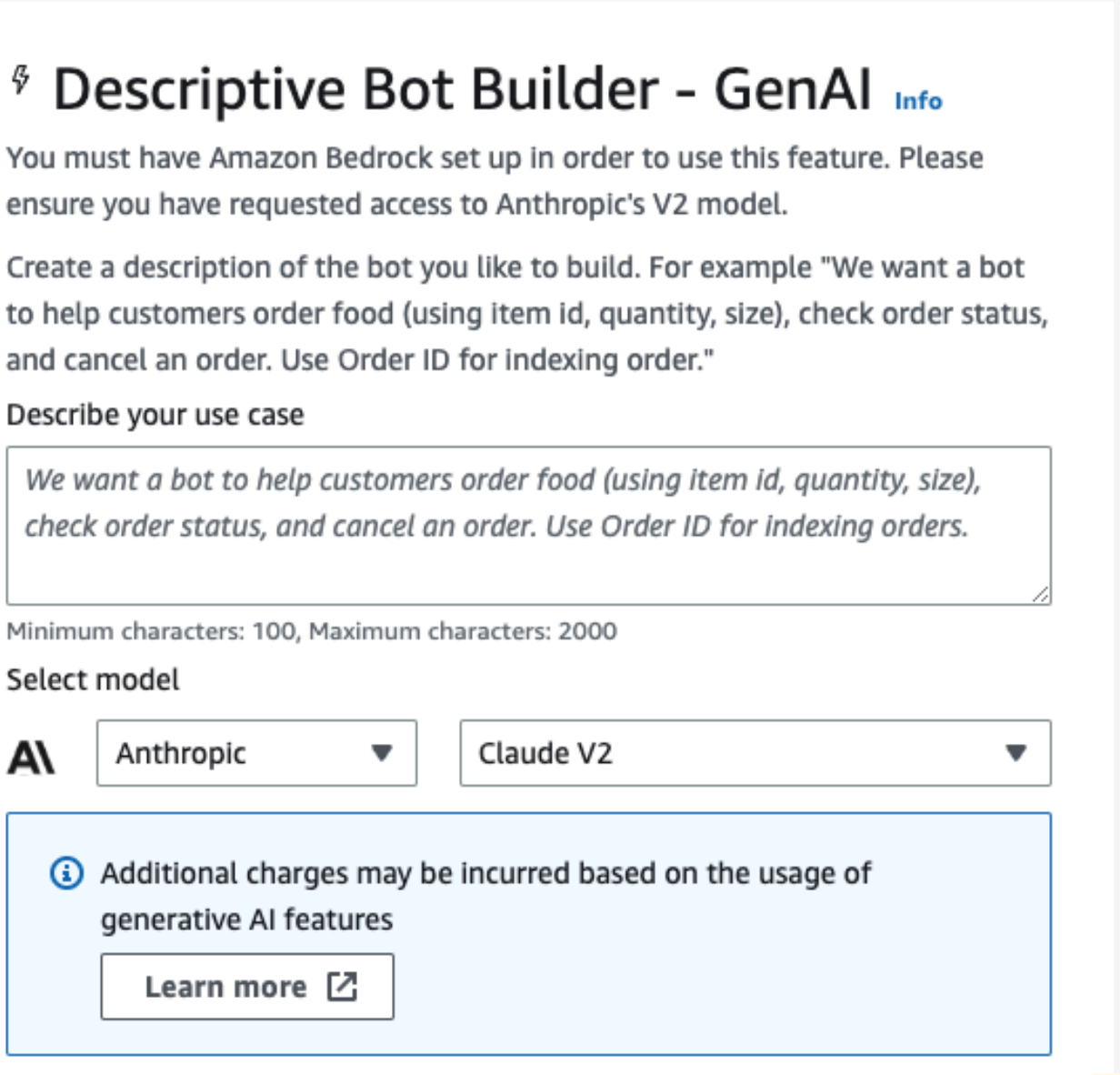


Precise — Creative

Generation

- Populate relevant intents and slot types with **natural language**.
- Automatically **generate** sample utterances
- Improve slot **resolution** performance.

Amazon Lex
https://docs.aws.amazon.com/lexv2/latest/dg/generative-features.html

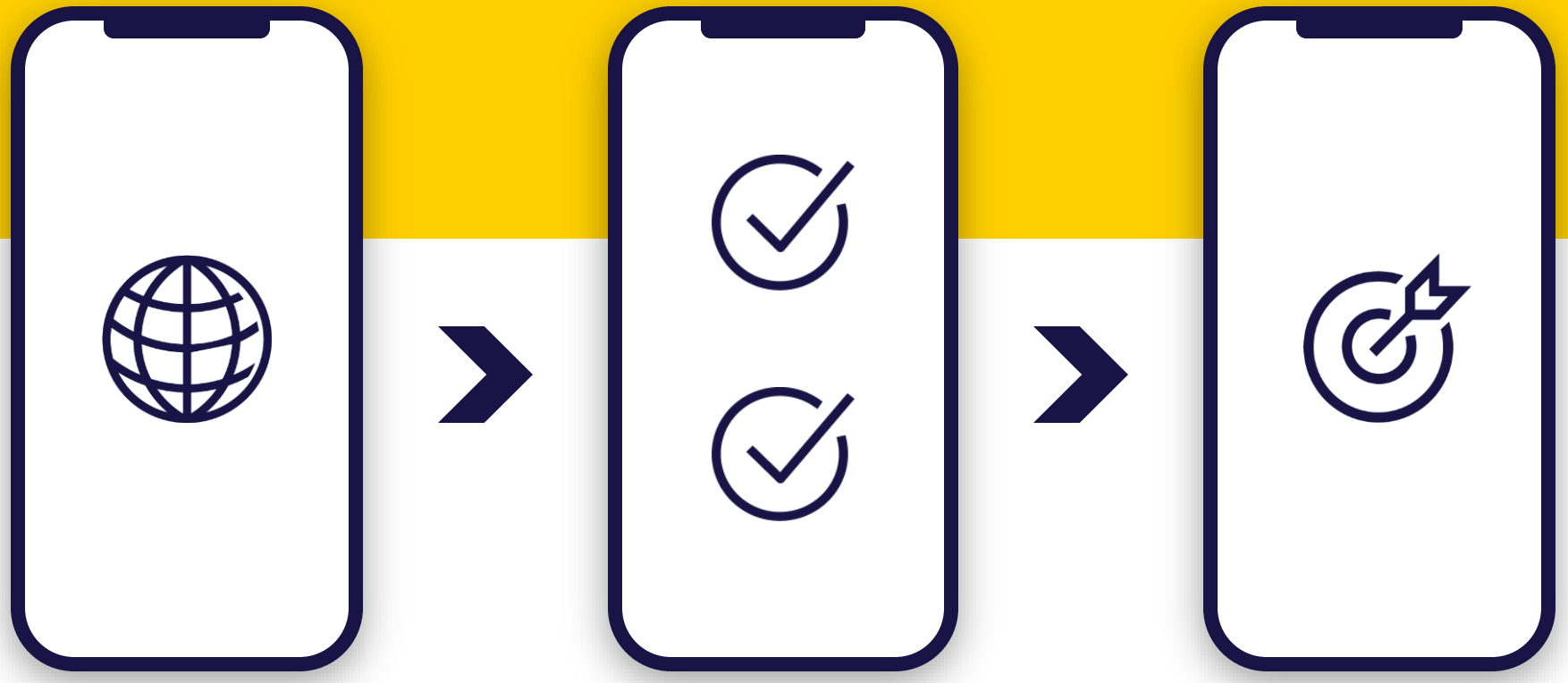


Omnichannel | Customer Interactions

1 Login

2 Start Quote

3 Completion

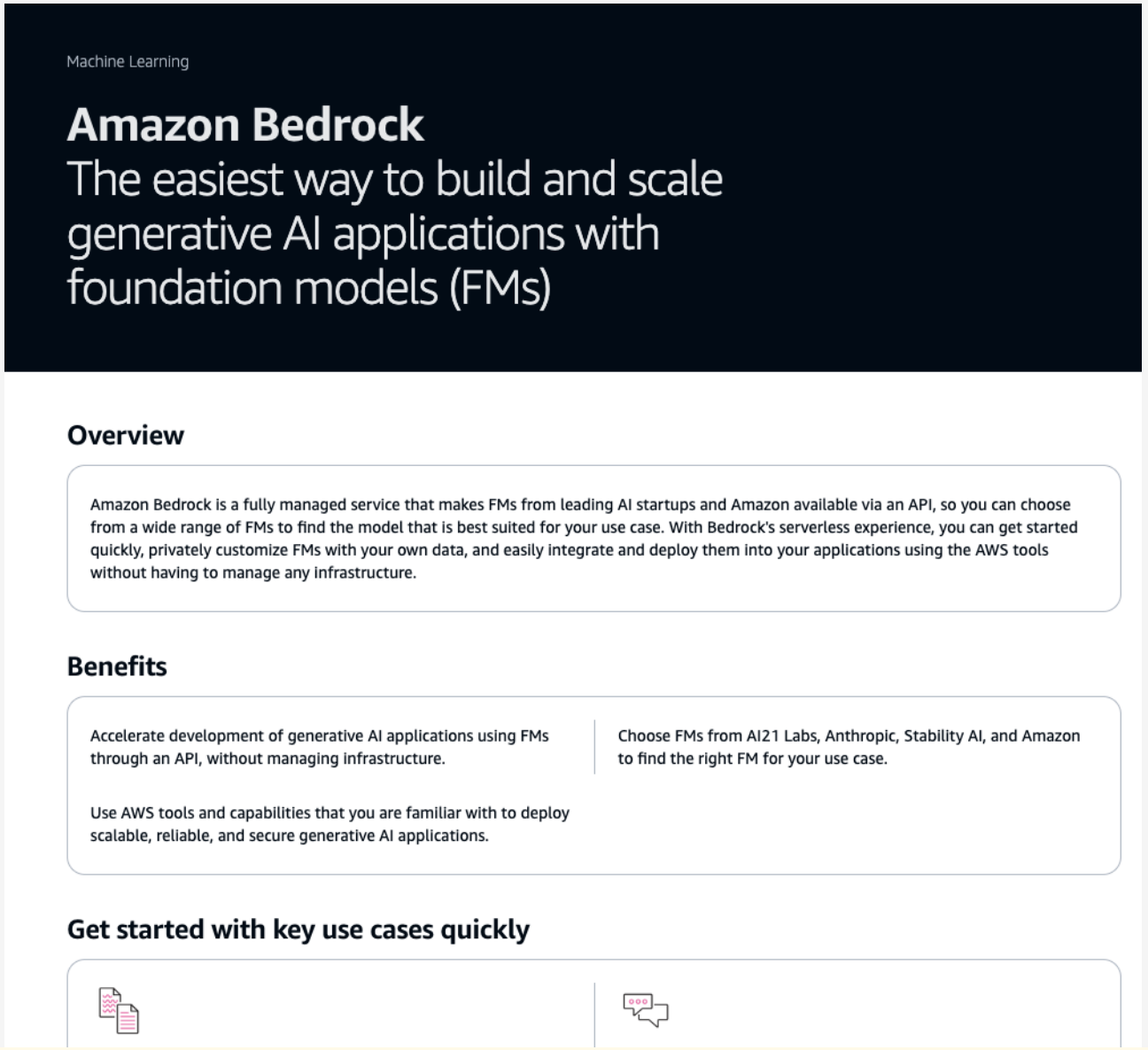


GenAI Model Deployment

- **Managed Service**
- **Foundation Model (FM) Selection**
- **Responsible AI**

AWS

https://aws.amazon.com/bedrock/

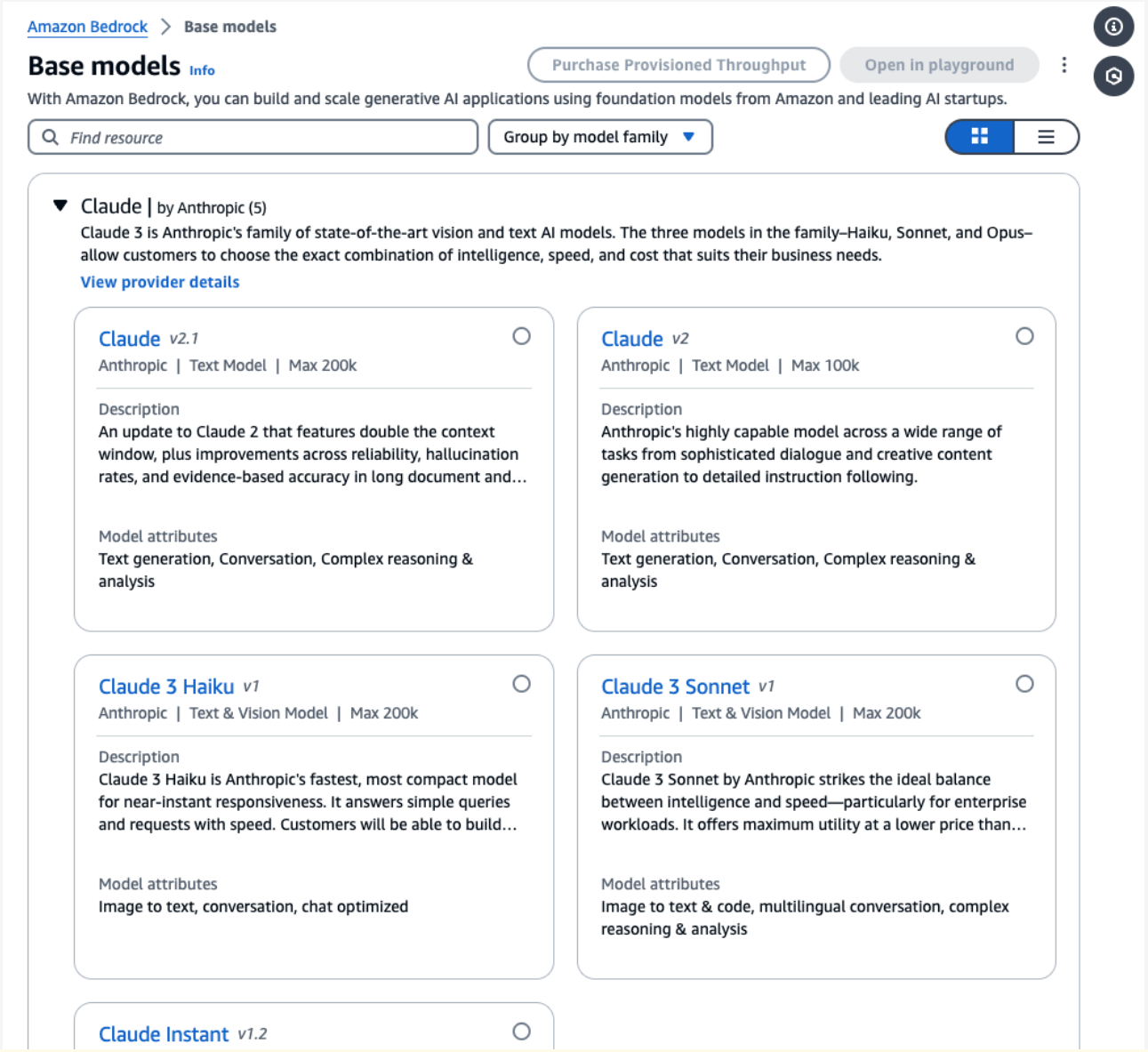


GenAI Model Deployment

Use Case:

- **Bot:** "When did the accident happen?"
- **User:** "It might have occurred three days ago."

AWS
https://aws.amazon.com/bedrock/

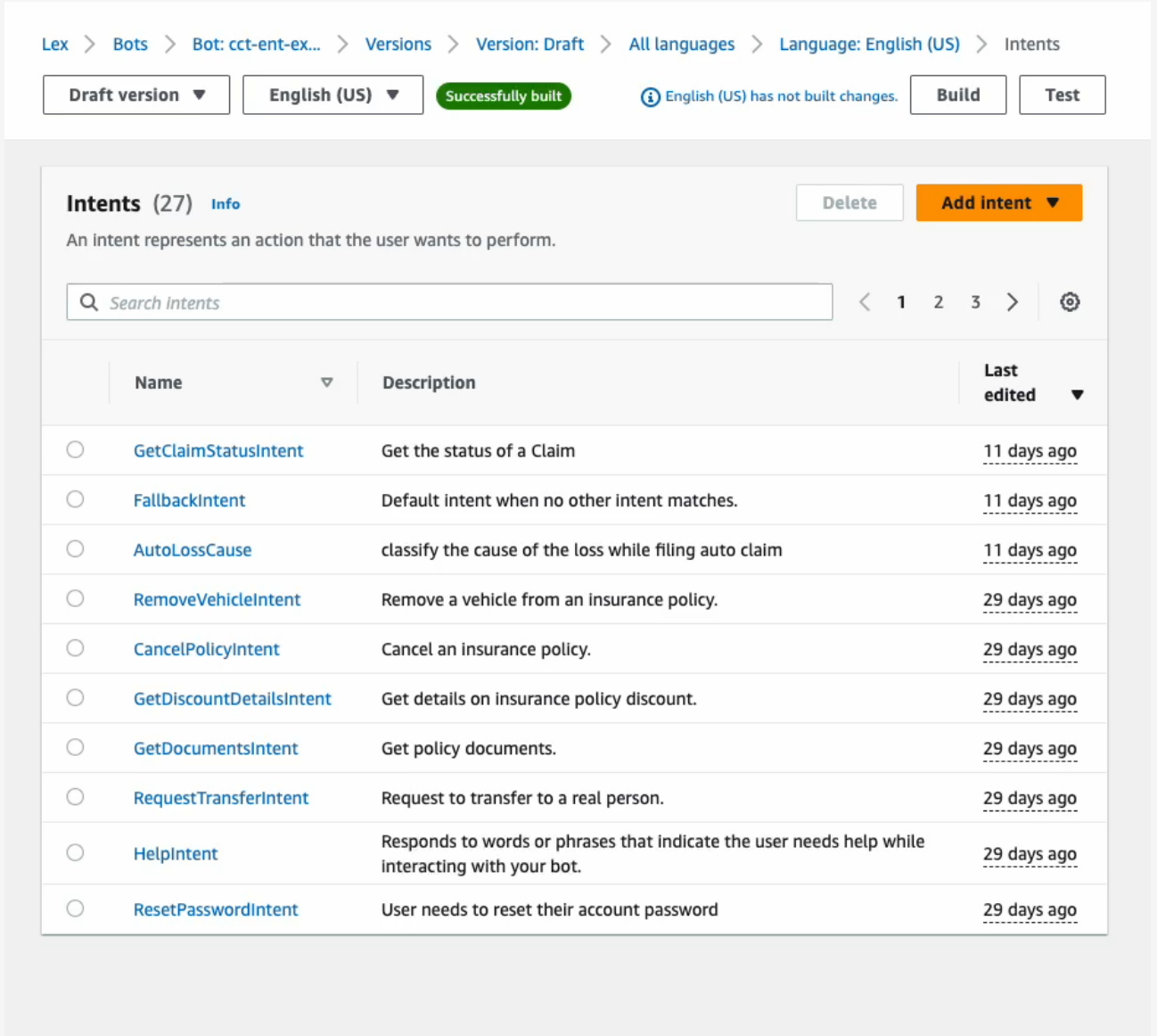


GenAI Model Deployment

Leverage Foundation Model (FM) to search and summarise FAQ knowledge:

- **Knowledge Base**
- **Intelligent Search**
- **Composite AI Models**

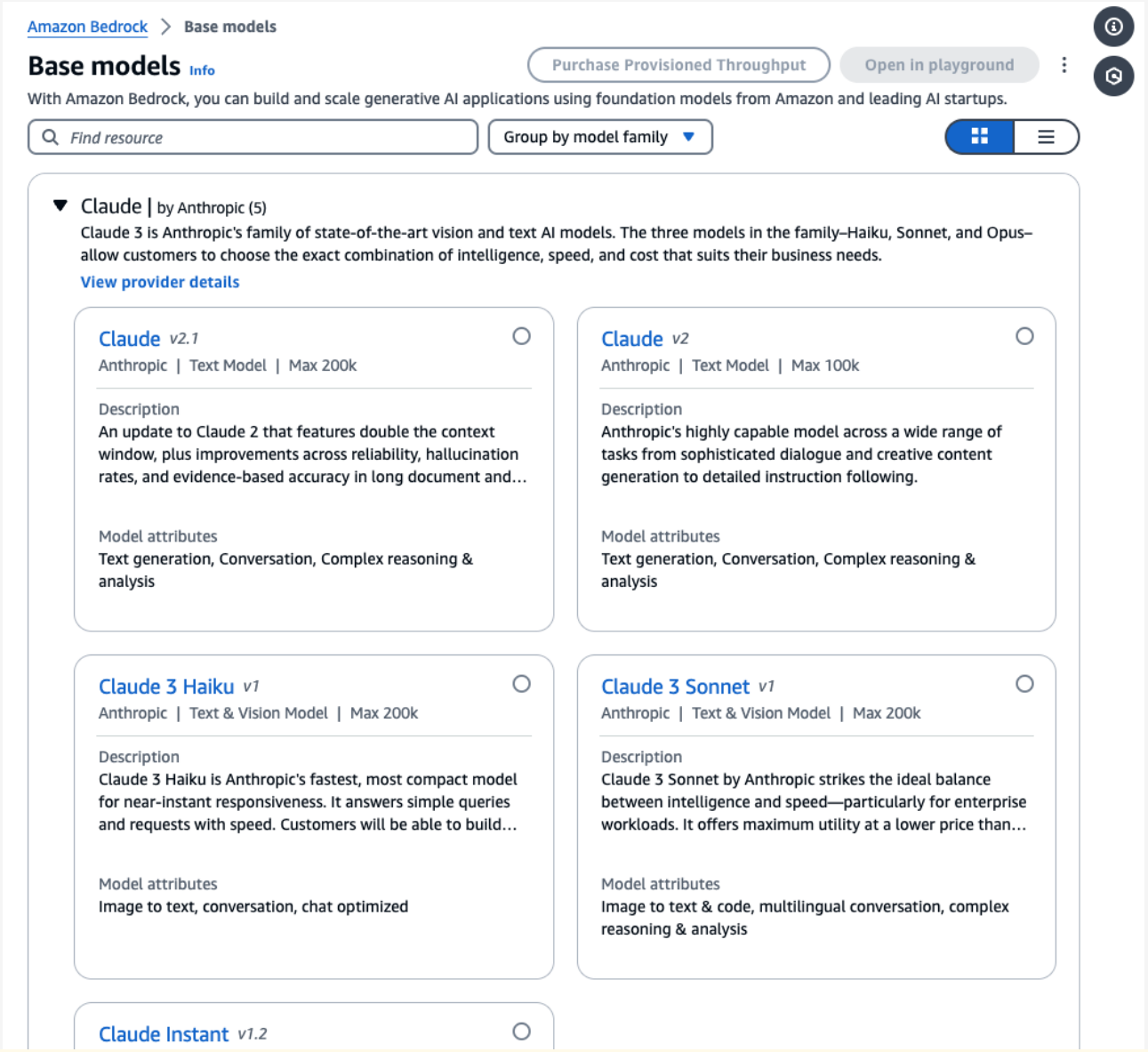
AWS
https://aws.amazon.com/bedrock/



GenAI Model Considerations

- **Scale:** On-demand vs Provisioned Throughput
- **Availability:**
  - Region Selection
  - Model Lifecycle

AWS
https://aws.amazon.com/bedrock/



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