

# A NEW APPROACH TO NLU: FREEDOM

**A future-proofed NLU strategy uses the best of the market, instead of gambling on just one NLU vendor.**

**The OneReach.ai NLU engine enables the sequencing and amalgamation of multiple NLP technologies within the same conversation. Finally, a get out of jail free card for your enterprise AI strategy.**

It seems that every week a new NLU king is crowned. For example general language models like GPT-3 are disrupting the NLU market and outpacing their predecessors. By choosing only one NLU engine for your solutions, you enter NLU jail, limiting your NLU capabilities to your single vendor's roadmap. OneReach.ai is intentionally designed for customers to reap the benefit of optionality, plugging in new engines as soon as they become available.

**OneReach.ai's proprietary NLU Engine amalgamates multiple systems and selects the best performing one, as determined at runtime, to be used to satisfy the request.**

This approach means you don't need to choose between Microsoft, AWS, Google, IBM, or any other NLU vendor to serve as your permanent choice; instead you can choose them all and use the best one on a case by case basis. Using multiple engines in the same conversation increases success rates dramatically. By choosing OneReach.ai you are choosing the entire market for your NLU capabilities, future proofing your organization against a rapidly evolving NLU marketplace, and enabling use of simultaneous engines within the same conversation.

# OneReach.ai is designed for optionality:

## 1. Use OneReach.ai proprietary AI engine (choose OneReach.ai option from the dropdown menu)

- **Amalgamate multiple systems from multiple providers** in real-time to deliver better results than any single solution can provide alone.
- Using a GANs network, OneReach.ai can train its models based on the best performing model of many. For example, we may train the same utterances with Google, AWS, Azure, IBM, and a solution specific vendor like Deepgram. Then we can rank the results from each vendor on an utterance by utterance basis and create a proprietary model with the best results from each. This novel method of model efficiency improvement ensures that OneReach.ai customers always have the best performing models the market can possibly provide. Even better, when these external players improve their NLU capabilities, our customer's models improve their performance automatically.
- Unlike other providers that require the customer to create an account within the 3rd party service, log in to it, and build NLU models there and then simply call that service via API at runtime (which we also support), we offer a consolidated native training interface within OneReach.ai that automatically creates a proprietary custom model based on any combination of 3rd party vendors you choose.

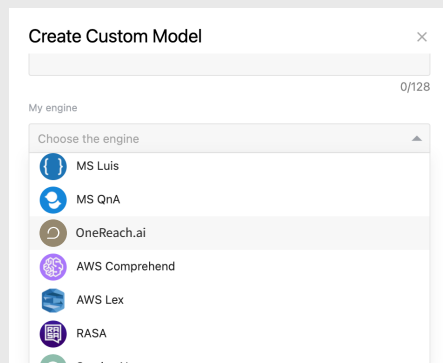
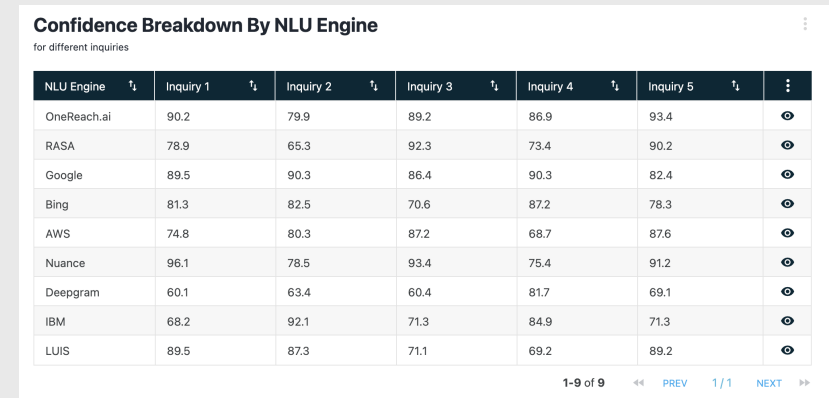


Figure 1: Choose NLU engines to create custom models.



Confidence Breakdown By NLU Engine												
for different inquiries												
NLU Engine	t <sub>1</sub>	Inquiry 1	t <sub>1</sub>	Inquiry 2	t <sub>1</sub>	Inquiry 3	t <sub>1</sub>	Inquiry 4	t <sub>1</sub>	Inquiry 5	t <sub>1</sub>	⋮
OneReach.ai		90.2		79.9		89.2		86.9		93.4		👁
RASA		78.9		65.3		92.3		73.4		90.2		👁
Google		89.5		90.3		86.4		90.3		82.4		👁
Bing		81.3		82.5		70.6		87.2		78.3		👁
AWS		74.8		80.3		87.2		68.7		87.6		👁
Nuance		96.1		78.5		93.4		75.4		91.2		👁
Deepgram		60.1		63.4		60.4		81.7		69.1		👁
IBM		68.2		92.1		71.3		84.9		71.3		👁
LUIS		89.5		87.3		71.1		69.2		89.2		👁

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Figure 2: Confidence scores produced from multiple NLU engines by intent.

## 2. Choose any number of third party engines and use multiple engines in the same solution:

- **Granular control over which engine(s) to use extends down to each individual response.** For example, if you find that one engine outperforms others on geography, use this engine in contexts specific to location.
- OneReach.ai offers the ability to utilize infinite NLU providers in the same conversation in any order. This is especially useful when one vendor has entity models that another doesn't. For example, you can use LUIS & Rasa for intent recognition and Dialogflow for entity recognition. The ability to use any NLU engine at any individual step in the conversation gives the extreme flexibility to mix and match vendors to utilize the entire market's capabilities.
- **Choose engines from drop down in each step.**
- Common engines such as: Microsoft LUIS, IBM Watson NLU, Amazon Lex, Google Dialogflow, RASA, Microsoft QnA Maker, Salesforce, SpaCy.
- Custom Engines: OneReach.ai's truly open architecture enables seamless integration with any third party or custom NLU engine, allowing our customers to avoid vendor lock-in. We can connect to these systems through our native amalgamation engine or via direct connections.

# Total Entity Control

Use OneReach.ai's proprietary prebuilt entity library, or build your own custom entities on top of OneReach.ai's NLU engine.

**Our native engine is designed to supports the following capabilities:**

- **Machine Learning Entities:** Custom entities built with unstructured conversational data.
- **List Entities:** Custom entities built from a simple list of terms and bolstered by a custom feature model.
- **Regex Entities:** Custom entities built from regex. We have a library of prebuilt regex patterns for common use cases like passwords.
- **Pattern Entities:** Custom entities built from common language patterns.
- **Prebuilt Entities:** Utilize OneReach.ai native or external prebuilt entities from any vendor (Lex, LUIS, Dialogflow, etc). You can use any combination of vendor entities in a single conversation, giving extreme flexibility and avoiding vendor lock in.
- **Hierarchical Relationships:** We can create sophisticated role based entities with our annotation GUI and even create hierarchical entity structures with parent child relationships that can extend to infinite levels of depth.
- **Flow Entities:** Custom entities built with OneReach's flow builder that can take into account formal logic, context, and even combine multiple prebuilt, machine learned, regex, list, and pattern entities. These flow built entities have unlimited potential for customization as they have all the functionality of OneReach.ai's 600+ function library and are accessible for granular access at the source code.
- **Entity Marketplace:** As additional entity models are created, we include them in our marketplace, so clients can easily leverage them for their solutions, further future proofing your NLU capabilities.

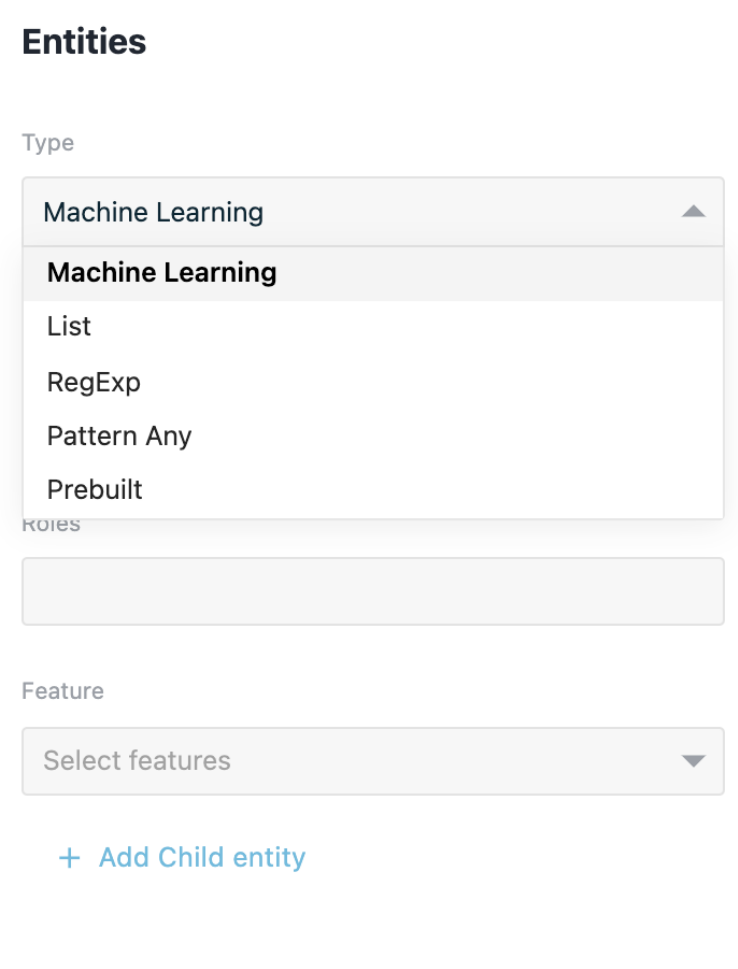


Figure 3: Utilize prebuilt entities or create custom models.