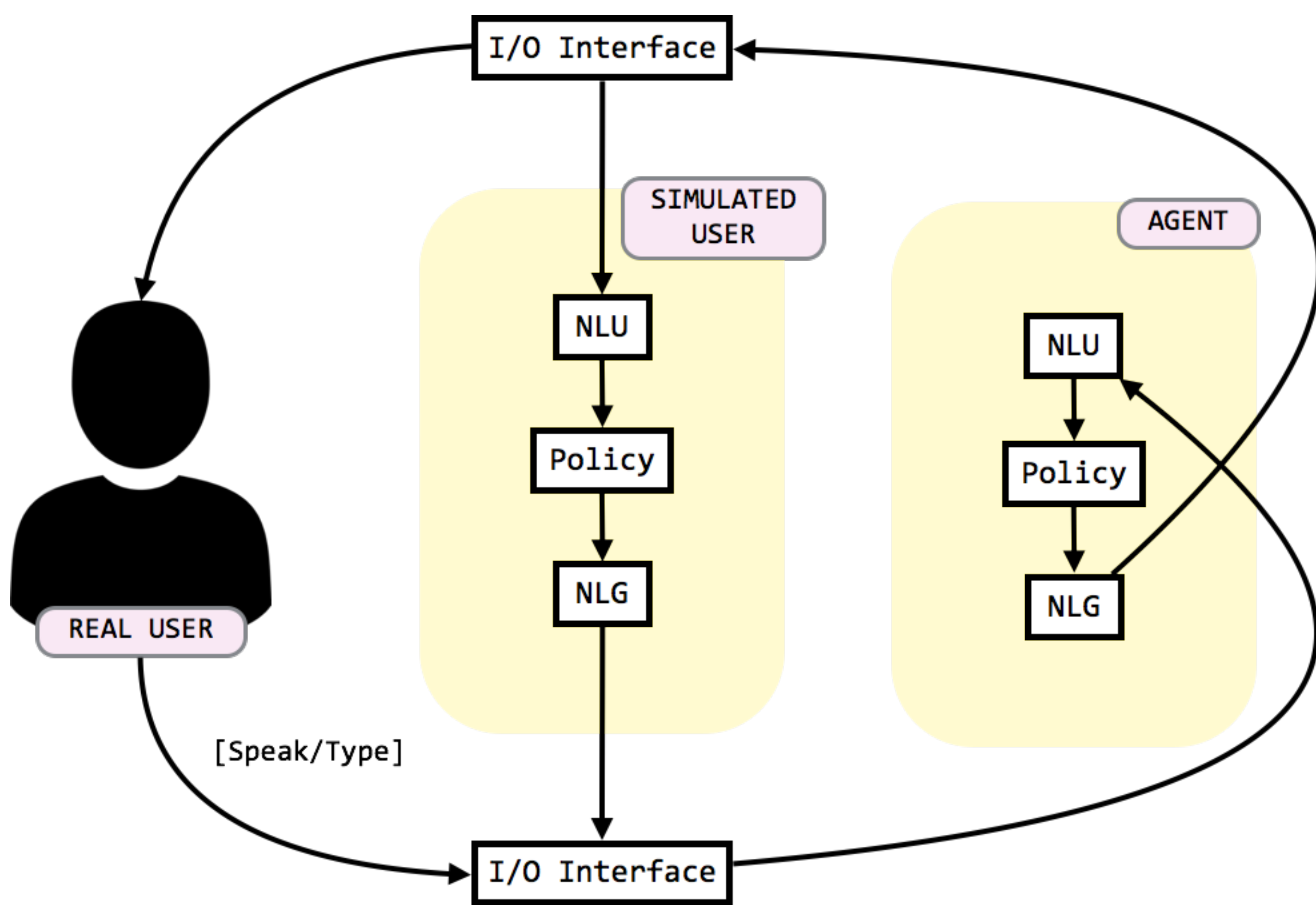


Demo Link: <http://140.112.29.41:9487>

Overview



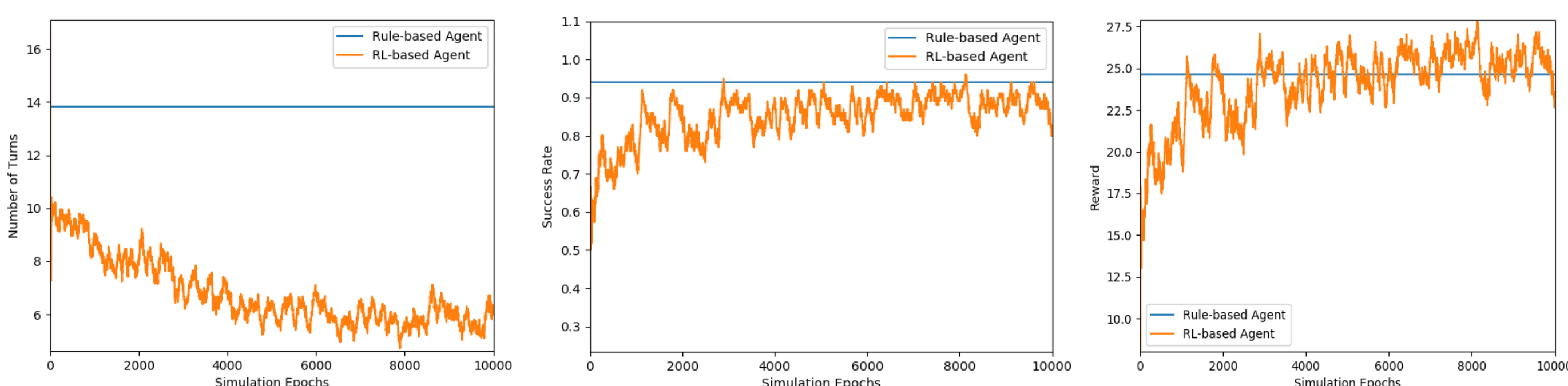
- A **Chinese** query TV bot.
- **Reinforcement Learning** based task-oriented intelligent conversational bot.
- It knows **EVERYTHING** about videos. (**70,000+** richly structured data)
- You can ask for anything about videos with several intent functions.
- You can try our bot via **android app** or **Facebook Messenger**.
- Our app supports **Google Speech API**.
- Want some TV? **KUBO YOUR LIFE !!!**

Ontology

- We crawl the data from "123kubo".
- Our agent fetches data from a SQLite database.
- #column: 11
- #slot: 13
- #intent: 18
- There are 4 tables in the database. The table below is for basic information of each movie.
- There are 3 other tables for dynamic numbers of actors, movie types, and movie aliases.

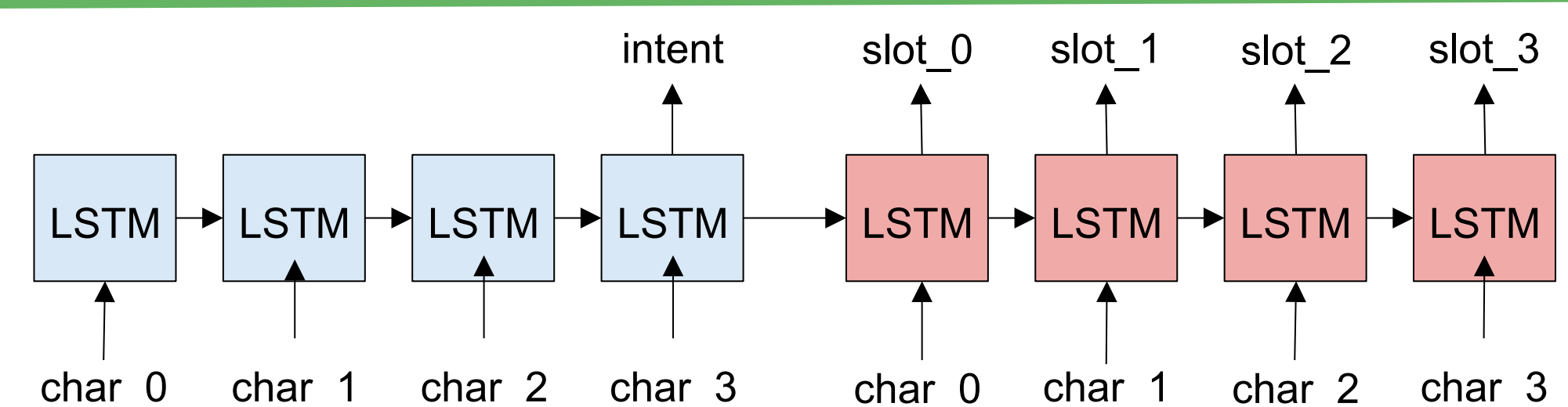
movie_id	title	location	year	rating
	update	status	content	playcount

Dialogue Management



- Dialogue state tracking model and simulated user model are both rule-based.
- Agent policy model is trained by actor-critic reinforcement learning approach.
- The agent returns top-10 results ordered by the state similarity.
- A dialogue will get high reward on success.
- Each turn in a dialogue has reward penalty.

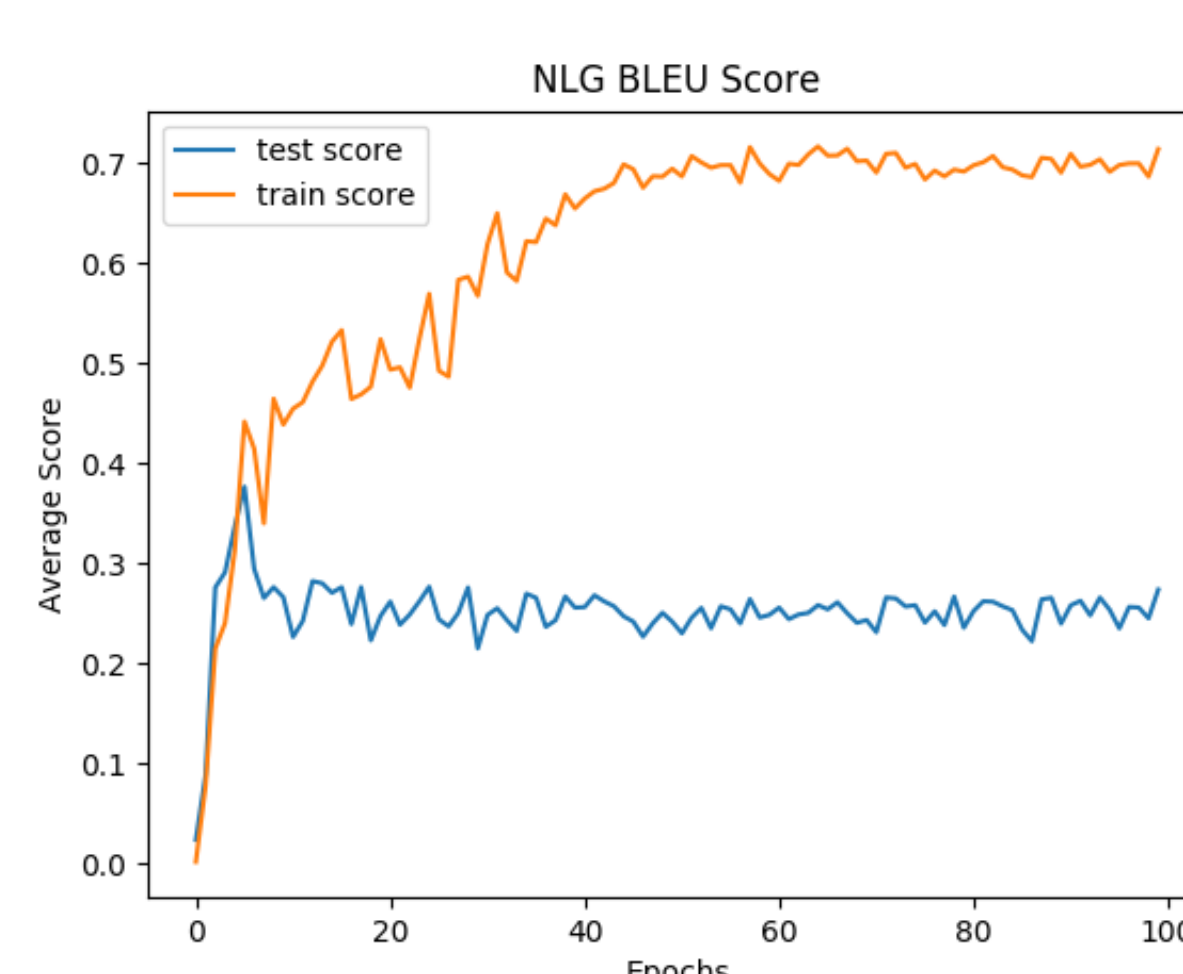
Language Understanding



- Our training data is in BIO format.
- Seq2Seq model with LSTM cell, jointly learning intent prediction and slot filling.
- Use encoder to predict intent and use decoder to predict slot type at each position.

	Training (360K)	Testing (50)
F1 Score	0.997	0.899
Intent Accuracy	0.998	0.952

Natural Language Generation



- Seq2Seq model with LSTM cell and single layer.
- Replace the contents of raw training data with pre-defined labels to benefit training.
- Use a random seed to generate diverse output.
- Replace the generated results with real contents as the final results.