

## 聊天机器人 (Chatbot) 专知荟萃

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<http://www.zhuanzhi.ai>

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## 聊天机器人 (Chatbot) 专知荟萃

### 入门学习

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1. 对话系统的历史(聊天机器人发展)
  - [\[http://blog.csdn.net/zhoubi668/article/details/8490310\]](http://blog.csdn.net/zhoubi668/article/details/8490310)

2. 微软邓力：对话系统的分类与发展历程
  - [<https://www.leiphone.com/news/201703/6PNNwLXouKQ3Eyl5.html>]
3. Deep Learning for Chatbots, Part 1 – Introduction 聊天机器人中的深度学习技术之一：导读
  - [<http://www.jeyzhang.com/deep-learning-for-chatbots-1.html>]
  - [<http://www.wildml.com/2016/04/deep-learning-for-chatbots-part-1-introduction/>]
4. Deep Learning for Chatbots, Part 2 – Implementing a Retrieval-Based Model in Tensorflow 聊天机器人中的深度学习技术之二：基于检索模型的实现
  - [<http://www.jeyzhang.com/deep-learning-for-chatbots-2.html>]
  - [<http://www.wildml.com/2016/07/deep-learning-for-chatbots-2-retrieval-based-model-tensorflow/>]
5. 自己动手做聊天机器人教程（1-42）
  - [<https://github.com/warmheartli/ChatBotCourse>]
6. 如何让人工智能助理杜绝“智障” 微软亚洲研究院
  - [<http://www.msra.cn/zh-cn/news/features/virtual-personal-assistant-20170411>]
7. 周明：自然语言对话引擎 微软亚洲研究院
  - [<http://www.msra.cn/zh-cn/news/features/ming-zhou-conversation-engine-20170413>]
8. 谢幸：用户画像、性格分析与聊天机器人
  - [<http://www.msra.cn/zh-cn/news/features/xing-xie-speech-20170324>]
9. 25 Chatbot Platforms: A Comparative Table
  - [<https://chatbotsjournal.com/25-chatbot-platforms-a-comparative-table-aeefc932eaff>]
10. 聊天机器人开发指南 IBM
  - [<https://www.ibm.com/developerworks/cn/cognitive/library/cc-cognitive-chatbot-guide/index.html>]
11. 朱小燕：对话系统中的 NLP
  - [[http://mp.weixin.qq.com/s/JyQ34kBNh2M5avdDtL0k\\_Q](http://mp.weixin.qq.com/s/JyQ34kBNh2M5avdDtL0k_Q)]
12. 使用深度学习打造智能聊天机器人 张俊林
  - [<http://blog.csdn.net/malefactor/article/details/51901115>]
13. 九款工具帮您打造属于自己的聊天机器人
  - [<http://mobile.51cto.com/hot-520148.htm>]
14. 聊天机器人中对话模板的高效匹配方法
  - [<http://blog.csdn.net/malefactor/article/details/52166235>]

## 15. 中国计算机学会通讯 2017 年第 9 期 人机对话专刊

- 人机对话 by 刘挺 张伟男
- 任务型与问答型对话系统中的语言理解技术 by 车万翔 张宇
- 聊天机器人的技术及展望 by 武威 周明
- 人机对话中的情绪感知与表达 by 黄民烈 朱小燕
- 对话式交互与个性化推荐 by 胡云华
- 对话智能与认知型口语交互界面 by 俞凯
- 对话系统评价技术进展及展望 by 张伟男 车万翔
- [\[https://pan.baidu.com/s/1o8Lv138\]](https://pan.baidu.com/s/1o8Lv138)

## 16. 中国人工智能学会通讯

- 从图灵测试到智能信息获取 郝宇, 朱小燕, 黄民烈
- 智能问答技术 何世柱, 张元哲, 刘康, 赵军
- 社区问答系统及相关技术 王斌, 吉宗诚
- 聊天机器人技术的研究进展 张伟男, 刘挺
- 如何评价智能问答系统 黄萱菁
- 智能助手: 走出科幻, 步入现实 赵世奇, 吴华
- [\[http://caai.cn/index.php?s=/Home/Article/qikandetail/year/2016/month/01.html\]](http://caai.cn/index.php?s=/Home/Article/qikandetail/year/2016/month/01.html)

## 进阶论文

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1. Sequence to Sequence Learning with Neural Networks
  - [\[http://papers.nips.cc/paper/5346-sequence-to-sequence-learning-with-neural-networks.pdf\]](http://papers.nips.cc/paper/5346-sequence-to-sequence-learning-with-neural-networks.pdf)
2. A Neural Conversational Model Oriol Vinyals, Quoc Le
  - [\[http://arxiv.org/pdf/1506.05869v1.pdf\]](http://arxiv.org/pdf/1506.05869v1.pdf)
3. A Diversity-Promoting Objective Function for Neural Conversation Models
4. A Hierarchical Latent Variable Encoder-Decoder Model for Generating Dialogues
  - [\[https://arxiv.org/abs/1605.06069\]](https://arxiv.org/abs/1605.06069)
5. Sequence to Backward and Forward Sequences: A Content-Introducing Approach to Generative Short-Text Conversation
  - [\[https://arxiv.org/abs/1607.00970\]](https://arxiv.org/abs/1607.00970)
6. A Persona-Based Neural Conversation Model
  - [\[https://arxiv.org/abs/1603.06155\]](https://arxiv.org/abs/1603.06155)

7. Deep Reinforcement Learning for Dialogue Generation
  - [<https://arxiv.org/abs/1606.01541>]
8. End-to-end LSTM-based dialog control optimized with supervised and reinforcement learning
  - [<https://arxiv.org/abs/1606.01269>]
9. A Network-based End-to-End Trainable Task-oriented Dialogue System
  - [<https://arxiv.org/abs/1604.04562>]
10. Incorporating Unstructured Textual Knowledge Sources into Neural Dialogue Systems
  - [<http://www.iro.umontreal.ca/~lisa/publications2/index.php/publications/show/871>]
11. A Neural Network Approach to Context-Sensitive Generation of Conversational Responses
  - [<https://arxiv.org/abs/1506.06714>]
12. A Dataset for Research on Short-Text Conversation
  - [[http://staff.ustc.edu.cn/~cheneh/paper\\_pdf/2013/HaoWang.pdf](http://staff.ustc.edu.cn/~cheneh/paper_pdf/2013/HaoWang.pdf)]
13. The Ubuntu Dialogue Corpus: A Large Dataset for Research in Unstructured Multi-Turn Dialogue Systems
  - [<https://arxiv.org/abs/1506.08909>]
14. Joint Online Spoken Language Understanding and Language Modeling with Recurrent Neural Networks, 2016
  - [<https://arxiv.org/abs/1609.01462>]
15. Neural Utterance Ranking Model for Conversational Dialogue Systems, 2016
  - [[https://www.researchgate.net/publication/312250877 Neural Utterance Ranking Model for Conversational Dialogue Systems](https://www.researchgate.net/publication/312250877_Neural_Utterance_Ranking_Model_for_Conversational_Dialogue_Systems)]
16. A Context-aware Natural Language Generator for Dialogue Systems, 2016
  - [<https://arxiv.org/abs/1608.07076>]
17. Task Lineages: Dialog State Tracking for Flexible Interaction, 2016
  - [<https://www.microsoft.com/en-us/research/publication/task-lineages-dialog-state-tracking-flexible-interaction-2/>]
18. Affective Neural Response Generation
  - [<https://arxiv.org/abs/1709.03968>]
19. Multi-Task Learning for Speaker-Role Adaptation in Neural Conversation Models
  - [<https://arxiv.org/abs/1710.07388>]

20. Chatbot Evaluation and Database Expansion via Crowdsourcing
  - [<http://www.cs.cmu.edu/afs/cs/user/zhouyu/www/LREC.pdf>]
21. A Neural Network Approach for Knowledge-Driven Response Generation
  - [<http://www.aclweb.org/anthology/C16-1318>]
22. Training End-to-End Dialogue Systems with the Ubuntu Dialogue Corpus
  - [[http://www.cs.toronto.edu/~lcharlin/papers/ubuntu\\_dialogue\\_dd17.pdf](http://www.cs.toronto.edu/~lcharlin/papers/ubuntu_dialogue_dd17.pdf)]
23. Emotional Chatting Machine: Emotional Conversation Generation with Internal and External Memory ACL 2017
  - [<https://arxiv.org/abs/1704.01074>]
24. Flexible End-to-End Dialogue System for Knowledge Grounded Conversation
  - [<https://arxiv.org/abs/1709.04264>]
25. Augmenting End-to-End Dialog Systems with Commonsense Knowledge
  - [<https://arxiv.org/abs/1709.05453>]
26. Evaluating Prerequisite Qualities for Learning End-to-End Dialog Systems
  - [<https://arxiv.org/abs/1511.06931>]
27. Attention with Intention for a Neural Network Conversation Model
  - [<https://arxiv.org/abs/1510.08565>]
28. Response Selection with Topic Clues for Retrieval-based Chatbots
  - [<https://arxiv.org/abs/1605.00090>]
29. LSTM based Conversation Models
  - [<https://arxiv.org/abs/1603.09457>]
30. Not All Dialogues are Created Equal: Instance Weighting for Neural Conversational Models
  - [<https://arxiv.org/abs/1704.08966>]
31. Learning Discourse-level Diversity for Neural Dialog Models using Conditional Variational Autoencoders ACL 2017
  - [<https://arxiv.org/abs/1703.10960>]
32. Words Or Characters? Fine-Grained Gating For Reading Comprehension ACL 2017
  - [<https://arxiv.org/abs/1611.01724v1>]

## 综述

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1. The Dialog State Tracking Challenge Series: A Review

- [[https://www.microsoft.com/en-us/research/wp-content/uploads/2016/06/williams2016dstc\\_overview-1.pdf](https://www.microsoft.com/en-us/research/wp-content/uploads/2016/06/williams2016dstc_overview-1.pdf)]
- 2. A Survey of Available Corpora for Building Data-Driven Dialogue Systems
  - [<https://arxiv.org/abs/1512.05742>]
- 3. 任务型人机对话系统中的认知技术——概念、进展及其未来
  - [<http://cjc.ict.ac.cn/online/cre/yk-2015112465445-20151210162142.pdf>]

## 专门会议

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1. SIGDIAL ACL 所属的关于对话系统的兴趣小组
  - [<http://www.sigdial.org/workshops/conference18/>]
2. INTERSPEECH 2017: INTERSPEECH 2017 which will take place on August 21-24 in Stockholm, Sweden, after SIGDIAL
3. YRRSDS 2017: Young Researchers' Roundtable on Spoken Dialog Systems, which will take place on August 13-14 also in Saarbrücken, Germany, right before SIGDIAL.
4. SemDial 2017!
  - [<http://www.saardial.uni-saarland.de/>]
5. Dialog System Technology Challenge (DSTC)
  - [<https://www.microsoft.com/en-us/research/event/dialog-state-tracking-challenge/>]
  - [<https://github.com/mesnilgr/is13>]

## Tutorial

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1. 2017 Tutorial - Deep Learning for Dialogue Systems ACL 2017
  - [<https://sites.google.com/site/deeplearningdialogue/>]
2. Research Blog: Computer, respond to this email.
  - [<https://research.googleblog.com/2015/11/computer-respond-to-this-email.html>]
3. Deep Learning for Chatbots, Part 1 – Introduction
  - [<http://www.wildml.com/2016/04/deep-learning-for-chatbots-part-1-introduction/>]

4. Deep Learning for Chatbots, Part 2 – Implementing a Retrieval-Based Model in Tensorflow
  - [<http://www.wildml.com/2016/07/deep-learning-for-chatbots-2-retrieval-based-model-tensorflow/>]
5. Chatbot Fundamentals An interactive guide to writing bots in Python
  - [<https://apps.worldwritable.com/tutorials/chatbot/>]
6. Chatbot Tutorial
  - [<https://www.codeproject.com/Articles/36106/Chatbot-Tutorial#intro>]

软件

## Chatbot

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1. ParlAI A framework for training and evaluating AI models on a variety of openly available dialog datasets.
  - [<https://github.com/facebookresearch/ParlAI>]
2. stanford-tensorflow-tutorials A neural chatbot using sequence to sequence model with attentional decoder.
  - [<https://github.com/chiphuyen/stanford-tensorflow-tutorials/tree/master/assignments/chatbot>]
3. ChatterBot ChatterBot is a machine learning, conversational dialog engine for creating chat bots
  - [<http://chatterbot.readthedocs.io/>]
4. DeepQA My tensorflow implementation of "A neural conversational model", a Deep learning based chatbot
  - [<https://github.com/Conchylicultor/DeepQA>]
5. neuralconvo Neural conversational model in Torch
  - [<https://github.com/macournoyer/neuralconvo>]
6. chatbot-rnn A toy chatbot powered by deep learning and trained on data from Reddit
  - [<https://github.com/pender/chatbot-rnn>]
7. tf\_seq2seq\_chatbot tensorflow seq2seq chatbot
  - [[https://github.com/nicolas-ivanov/tf\\_seq2seq\\_chatbot](https://github.com/nicolas-ivanov/tf_seq2seq_chatbot)]
8. ai-chatbot-framework A python chatbot framework with Natural Language Understanding and Artificial Intelligence.

- [<https://github.com/alfredfrancis/ai-chatbot-framework>]
- 9. DeepChatModels Conversation Models in Tensorflow
  - [<https://github.com/mckinziebrandon/DeepChatModels>]
- 10. Chatbot Build your own chatbot base on IBM Watson
  - [<https://webchatbot.mybluemix.net/>]
- 11. Chatbot An AI Based Chatbot
  - [<http://chatbot.sohelamin.com/>]
- 12. neural-chatbot A chatbot based on seq2seq architecture done with tensorflow.
  - [<https://github.com/inikdom/neural-chatbot>]

## Chinese\_Chatbot

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- 1. Seq2Seq\_Chatbot\_QA 使用 TensorFlow 实现的 Sequence to Sequence 的聊天机器人模型
  - [[https://github.com/qhduan/Seq2Seq\\_Chatbot\\_QA](https://github.com/qhduan/Seq2Seq_Chatbot_QA)]
- 2. Chatbot 基於向量匹配的情境式聊天機器人
  - [<https://github.com/zake7749/Chatbot>]
- 3. chatbot-zh-torch7 中文 Neural conversational model in Torch
  - [<https://github.com/majoressense/chatbot-zh-torch7>]

## 数据集

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- 1. Cornell Movie-Dialogs Corpus
  - [<http://www.cs.cornell.edu/cristian/CornellMovie-DialogsCorpus.html>]
- 2. Dialog\_Corpus Datasets for Training Chatbot System
  - [[https://github.com/candlewill/Dialog\\_Corpus](https://github.com/candlewill/Dialog_Corpus)]
- 3. OpenSubtitles A series of scripts to download and parse the OpenSubtitles corpus.
  - [<https://github.com/AlJohri/OpenSubtitles>]
- 4. insuranceqa-corpus-zh OpenData in insurance area for Machine Learning Tasks
  - [<https://github.com/Samurais/insuranceqa-corpus-zh>]
- 5. dgk\_lost\_conv dgk\_lost\_conv 中文对白语料 chinese conversation corpus
  - [[https://github.com/majoressense/dgk\\_lost\\_conv](https://github.com/majoressense/dgk_lost_conv)]



6. Frames: A Corpus for Adding Memory to Goal-Oriented Dialogue Systems  
一共 1369 段对话，平均每段对话 15 轮。

○ [<http://datasets.maluuba.com/Frames>]

7. Ubuntu Dialogue Corpus

○ [<http://dataset.cs.mcgill.ca/ubuntu-corpus-1.0/>]

## 领域专家

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1. Cambridge Dialogue Systems Group Steve Young

○ [<http://mi.eng.cam.ac.uk/research/dialogue/>]

2. Ming Zhou

○ [<https://www.microsoft.com/en-us/research/people/mingzhou/>]

3. Jiwei Li(李纪为), - [<http://web.stanford.edu/jiwei/>]

4. Ryan Lowe, - [<http://cs.mcgill.ca/rlowe1/>]

5. Lili Mou

○ [<https://lili-mou.github.io/>]

6. Jason Williams Microsoft

○ [<https://www.microsoft.com/en-us/research/people/jawillia/>]

7. Bing Liu (刘冰) CMU

○ [<http://bingliu.me/>]

8. Ian Lane

○ [<http://www.cs.cmu.edu/~ianlane/#&panel1-1>]

9. Ondřej Dušek

○ [<https://ufal.mff.cuni.cz/ondrej-dusek>]

10. Sungjin Lee 微软

○ [<https://www.microsoft.com/en-us/research/people/sule/>]

11. Zhou Yu 俞舟 CMU

○ [<http://www.cs.cmu.edu/~zhouyu/>]

12. 华为诺亚实验室

○ [<http://www.noahlab.com.hk/topics/ShortTextConversation>]

13. 刘挺 哈尔滨工业大学

○ [<http://ir.hit.edu.cn/~tliu>]

14. 张伟男 哈尔滨工业大学 - [<http://ir.hit.edu.cn/~wnzhang>]

15. Wei Wu (武威) 微软

○ [<https://www.microsoft.com/en-us/research/people/wuwei/>]

16.赵军 中科院自动化所

○ [<http://www.nlpr.ia.ac.cn/cip/jzhao.htm>]

17.黄民烈 清华

○ [<http://aihuang.org/p/>]

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