Kyoshiro SUGIYAMA

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RESEARCH INTERESTS

My major research interest is to realize a comfortable dialog system.

NON-TASK-ORIENTED DIALOG SYSTEM

Non-task-oriented dialog is a dialog with no tasks, goals or specified domains.
It is important for dialog systems to build good relations with users.
I'm interested in non-task-oriented dialog systems rather than task-oriented ones.

CONDITIONED LANGUAGE GENERATION

Dialog system should be coherent to the dialog history and the system profiles.
I'm interested in methods that can deal with such conditions.

EDUCATION

Nara Institute of Science and Technology, Ikoma, Nara, Japan

- Ph.D. student in Division of Information Science — Apr 2016 –
  - Theme: Profile-conditioned dialog system
  - Adviser: Prof. Satoshi NAKAMURA, A.P. Koichiro YOSHINO
  - Focus: Dialog system, neural conversational machine, natural language generation
- Master of Engineering — Apr 2014 – Mar 2016
  - Thesis: An investigation of machine translation evaluation metrics in cross-lingual question answering (in Japanese)

Kure National College of Technology, Kure, Hiroshima, Japan

- B.S. in Engineering — Apr 2012 – Mar 2014
  - Thesis: Effectiveness of AdaBoost on self-organizing neural grove (in Japanese)

PUBLICATIONS

JOURNAL PAPERS

[1] Kyoshiro Sugiyama, Masahiro Mizukami, Koichiro Yoshino, Yu Suzuki and Satoshi Nakamura, "An investigation of effective machine translation evaluation metrics in cross-lingual question answering," *Journal of Natural Language Processing (in Japanese)*, vol. 23, no. 5, pp. 437–461, Dec 2016.

[2] Hirotaka Inoue and Kyoshiro Sugiyama, "Self-organizing neural grove: efficient neural network ensembles using pruned self-generating neural trees," *International Journal of Computing*, vol. 12, issue 3, pp. 210–216, Aug 2014.

CONFERENCE AND WORKSHOP PAPERS

[3] Kyoshiro Sugiyama, Koichiro Yoshino, and Satoshi Nakamura, "Building dialog data collection toolkit with personal settings," in *Proceedings of 84th SIG-SLUD (in Japanese)*, pp. 90–91, Tokyo, Japan, Oct 2018.

[4] Kyoshiro Sugiyama, Masahiro Mizukami, Koichiro Yoshino, Hiroki Tanaka, Yu Suzuki and Satoshi Nakamura, "Utterance selection that prevent contradicting dialog history," in *Proceedings of 78th SIG-SLUD (in Japanese)*, pp. 122–124, Tokyo, Japan, Oct 2016.

[5] Kyoshiro Sugiyama and Masahiro Mizukami, Graham Neubig, Koichiro Yoshino, Sakriani Sakti, Tomoki Toda and Satoshi Nakamura, "An investigation of machine translation evaluation metrics in cross-lingual question answering," in *Proceedings of the Tenth Workshop on Statistical Machine Translation*, pp. 442–449, Lisbon, Portugal, Sep 2015.

[6] Kyoshiro Sugiyama, Graham Neubig, Sakriani Sakti, Tomoki Toda and Satoshi Nakamura, "An investigation of the effect of translation quality in cross-lingual question answering based on knowledge base," in *Proceedings of 29th Japanese Society of Artificial Intelligence (in Japanese)*, Hokkaido, Japan, May 2015.

CONFERENCE AND WORKSHOP PAPERS (COAUTHOR)

[7] Koichiro Yoshino, Yukitoshi Murase, Nurul Lubis, Kyoshiro Sugiyama, Hiroki Tanaka, Sakriani Sakti, Shinnosuke Takamichi and Satoshi Nakamura, "Spoken Dialogue Robot for Watching Daily Life of Elderly People," in *Proceedings of International Workshop on Spoken Dialogue Systems Technology (IWSDS) 2019*, Siracusa, Italy, Apr 2019.

[8] Koichiro Yoshino, Hiroki Tanaka, Kyoshiro Sugiyama, Makoto Kondo and Satoshi Nakamura, "Japanese Dialogue Corpus of Information Navigation and Attentive Listening Annotated with Extended ISO-24617-2 Dialogue Act Tags," in *Proceedings of the Eleventh International Conference on Language Resources and Evaluation*, pp. 2922–2927, Miyazaki, Japan, May 2018.

[9] Hiroki Tanaka, Koichiro Yoshino, Kyoshiro Sugiyama, Satoshi Nakamura and Makoto Kondo, "Multimodal interaction data between clinical psychologists and students for attentive listening modeling," in *Proceedings of 2016 Conference of The Oriental Chapter of International Committee for Coordination and Standardization of Speech Databases and Assessment Techniques*, pp. 95–98, Bali, Indonesia, Oct 2016.

[10] Masahiro Mizukami, Kyoshiro Sugiyama, Graham Neubig, Koichiro Yoshino, Sakriani Sakti and Satoshi Nakamura, "Construction of RNN-bsed Dialogue Breakdown Detector," in *Proceedings of 75th SIG-SLUD (in Japanese)*, pp. 47–50, Tokyo, Japan, Oct 2015.

[11] Hirotaka Inoue and Kyoshiro Sugiyama, "Self-organizing neural grove," in *Proceedings of IEEE 7th International Conference on Intelligent Data Acquisition and Advanced Computing Systems*, Berlin, Germany, Sep 2013.

LANGUAGES

- Japanese: Native language.
- English: Intermediate (recent TOEIC score is 820).

SKILLS

Python 3 (6 years, writing experience of 10k+ lines, current main language), C language (4 years, writing experience of 5k+ lines), Shell script (6 years, daily use), HTML (1 year), CSS (1 year), JavaScript (1 year), SQL (3 years), LaTeX, Linux (Ubuntu, Debian), Windows (10).

PRODUCTS

- **Dialog and personal settings data collection toolkit for crowdsourcing**
  It works on web browsers and contains **worker matching system, chat room, after-dialog questionnaires and a database which records a series of dialog session.**
  It's used in [3], developed by using Python3, Django, HTML/CSS, Javascript and SQLite3. (about **55k lines of codes** in total)
- **Twitter reply database**
  The database contains **15M+ tweets and 10M+ post-reply pairs.**
  The file size is nearly 10GB, I'm still continuing the collection.
  It's developed by using Python3 and SQLite3.
- **Neural conversational machine**
  It's trained on the above Twitter reply database, developed by using Python3 and PyTorch. (about 4k lines of codes in total)
  It can work on Telegram API.
- **Attentive-listening dialog dataset and dialog system**
  I took a part in the development of an attentive-listening dialog system as a project of SCOPE funded by Ministry of Internal Affairs and Communications. My job was to **conduct dialog data collection** and to **build backend systems of the dialog robot.**
  As the dialog data collection, I recorded **60 face-to-face dialogs and asked questionnaires** to each participant. Further, I made arrangements by using Julius etc. for effective and accurate annotation.
  To build backend systems of the dialog, I wrote **Python programs that connect the front-end robot (CommU) and the back-end dialog system via TCP/IP protocol.**
  These works were published in [7], [8] and [9].

WORK EXPERIENCES

RESEARCH ASSISTANT
Division of Information Science, Nara Institute of Science and Technology

- Profile-conditioned Neural Conversation System — Apr 2019–
- Attentive-Listening Dialog System for Elderly People — Oct 2015–Mar 2018
- Assistant of Research on Dialog System — Apr 2016–Feb 2019

TEACHING ASSISTANT
Division of Information Science, Nara Institute of Science and Technology

- Sequential Data Modeling — Apr 2015–Jul 2015

[*CV compiled on 2019-10-15*]