

## Talk - Qiming Bao - TUESDAY 11th OCTOBER 10AM

Rebecca Price <r.price@partner.samsung.com>

周四 2022/10/6 22:04

收件人: saic.all@samsung.com <saic.all@samsung.com>

Good morning all,

Hi All,

We are very pleased to welcome our speaker Qiming Bao for our talk on Tuesday 11<sup>th</sup> October at 10am. Below is the Abstract for the talk.

Please make every effort to attend and we look forward to seeing you all there!

Please find GoTo Meeting details after the Abstract.

**Title:** Multi-Step Deductive Reasoning Over Natural Language: An Empirical Study on Out-of-Distribution Generalization

**Abstract:**

Combining deep learning with symbolic logic reasoning aims to capitalize on the success of both fields and is drawing increasing attention. Inspired by DeepLogic, an end-to-end model trained to perform inference on logic programs, we introduce IMA-GloVe-GA, an iterative neural inference network for multi-step reasoning expressed in natural language. In our model, reasoning is performed using an iterative memory neural network based on RNN with a gate attention mechanism. We evaluate IMA-GloVe-GA on three datasets: PARARULES, CONCEPTRULES V1 and CONCEPTRULES V2. Experimental results show DeepLogic with gate attention can achieve higher test accuracy than DeepLogic and other RNN baseline models. Our model achieves better out-of-distribution generalisation than RoBERTa-Large when the rules have been shuffled. Furthermore, to address the issue of unbalanced distribution of reasoning depths in the current multi-step reasoning datasets, we develop PARARULE-Plus, a large dataset with more examples that require deeper reasoning steps. Experimental results show that the addition of PARARULEPlus can increase the model's performance on examples requiring deeper reasoning depths.

**Paper link:** <https://www.cs.ox.ac.uk/isg/conferences/tmp-proceedings/NeSy2022/paper15.pdf>

Talk - Qiming Bao

Tue, Oct 11, 2022 10:00 AM - 11:00 AM (BST)

**Please join my meeting from your computer, tablet or smartphone.**

<https://meet.goto.com/201093005>

**You can also dial in using your phone.**

United Kingdom: [+44 808 178 0872](tel:+448081780872)

**Access Code:** 201-093-005

Get the app now and be ready when your first meeting starts: <https://meet.goto.com/install>

Kind Regards

07789750189

Samsung AI Center Cambridge, 7<sup>th</sup> Floor 50/60 Station Road, Cambridge CB1 2JH part of Samsung R&D Institute (SRUK), Communications House, South Street, Staines-upon-Thames, Surrey, TW18 4QE. A division of Samsung Electronics (UK) Limited, a limited company registered in England and Wales with registered number 03086621 and whose registered address is Samsung House, 2000 Hillswood Drive, Chertsey, Surrey, KT16 0RS, UK. This email (including any attachments) is private and confidential, and may be privileged. It is for the exclusive use of the intended recipient(s). If you have received this email in error, please inform the sender immediately and then delete this email. Unless you have been given specific permission to do so, please do not distribute or copy this email or its contents. Unless the text of this email specifically states that it is a contractual offer or acceptance, the sender does not intend to create a legal relationship and this email shall not constitute an offer or acceptance which could give rise to a contract. Any views expressed in this communication are those of the individual sender, except where the sender specifically states them to be the views of Samsung.