MULTI-TASK
MULTI-LINGUAL
MULTI-MODAL

cost
EUROPEAN COOPERATION
IN SCIENCE & TECHNOLOGY

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2020 INLG
International Conference on
Natural Language Generation
15-18 December 2020

Multi3Generation

COST Action CA18231

Multi-task, Multilingual, Multi-modal
Language Generation
https://multi3generation.eu/

INLG 2020, Dublin Ireland

Aims

- Foster an interdisciplinary network of research groups working on distinct aspects of language generation (LG) with an emphasis on any combination of the following:
  - multilingual models
  - multi-task learning
  - multimodality

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NLG M³

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Multi3Generation focuses on 4 core challenges:

1. **Data and information representations**: images, videos, KBs and graphs, among others
2. **Machine Learning** (ML) challenges when applied to LG: inputs to be mapped to different correct outputs (e.g. structured prediction and representation learning)
3. **Interaction**: applications challenges to LG (e.g. Dialogue Systems, Conversational Search Interfaces and Human-Robot Interaction)
4. **Knowledge Base (KB) exploitation**: structured knowledge is key to many NLP tasks, including NLG, supporting ML methods that require expansion, filtering, disambiguation or user adaptation of generated content

Main questions:

1. How can we efficiently exploit common-sense, world knowledge and multi-modal information from various inputs, in different NLG tasks?

1. How can current ML-driven methods such as multi-task learning (MTL), representation learning and structured prediction be leveraged for NLG?

1. How can the models from challenges (1) and (2) be exploited to develop dialogue-based, conversational Human-Computer and Human-Robot interaction methods?

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Research Coordination

- Foster knowledge exchange by sharing of resources including semantic annotation guidelines, benchmarking corpora, machine learning and alignment tools.

- Create multimodal and multilingual benchmarks for NLG:
  - experimenting with automatic mapping between existing resources
  - crawling of Web data, definition of annotation guidelines
  - launching of crowdsourcing campaigns for bigger datasets (also as games-with-a-purpose).

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Research Coordination

- Facilitate interaction, collaborations, knowledge building and dissemination.
- Promote interest among other researchers.
- Provide opportunities for joint research projects, e.g. during exchange visits and activities linked with industrial and academic partners.
- Disseminate the results of the Action through outreach events involving academia and industry.
- Create synergies between participants via joint publications in books, journals and conferences; reports from working group meetings and training materials from training schools.

Capacity Building

- Strengthen the European research on theory, methodology and real-world technology in language generation, particularly in the three Multi3Generation focus research themes

- Facilitate international collaboration, networking and interdisciplinary community fostering joint activities

- Drive scientific progress by liaising extensively with industry and end-users, and by increasing joint collaboration and knowledge transfer by the end of the Action

Working Groups

- WG 1 – Grounded multi-modal reasoning and generation
- WG 2 – Efficient Machine Learning algorithms, methods, and applications to language generation
- WG 3 – Dialogue, interaction and conversational natural language generation
- WG 4 – Exploiting large knowledge bases and graphs
- WG 5 – Industry and End-User Liaison

Grants for Young Researchers

Inclusiveness Target Countries (ITC) Conference Grants

- COST mechanism to support PhD students and Early Career Investigators (ECI) of ITC countries to attend international scientific events on the topic of the Action that are not organised by the COST Action.
- Any young researcher from an ITC country that is member of the COST Action can apply.

Short-Term Scientific Missions (STSM)

Short-term research visits between members of a COST Action.

- Especially targeting ECIs.
- STSM grants contribute to expenses for accommodation, travel and subsistence according to a regulated COST scheme.

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