

ROMJIST Mirroring Research Domains in the Section of Information Science and Technology of the Romanian Academy - A brief bibliometric analysis -

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Abstract. Using solely the tools offered by Google, the research connections between the ROMJIST journal and the Section of Information Science and Technology (S-IST) of the Romanian Academy are analyzed.

Key-words: Bibliometric analysis, information science and technology.

1. Introductory Matters

The Romanian Journal for Information Science and Technology (ROMJIST) is published by the Romanian Academy (RA) Publishing House [1] with the partial support and collaboration of the National Institute for Research and Development in Microtechnologies - IMT Bucharest, Romania [2]. The journal represents the Section of Information Science and Technology (S-IST) of the Romanian Academy [2, 3]. It covers several domains pertaining to computer science, information science, electronics, and communications technology.

ROMJIST, also known under the abbreviation “Romanian J. Information Sci.&Technol” is the only journal of the IST Section published by the RA Publishing House. ROMJIST has an h-index of 17 on SCImago.

This issue celebrates 30 years since the instituting of the Section of Information Science and Technology (S-IST) of the Romanian Academy.

2. Bibliometric Analysis of the Connections with the IST Section

The entire bibliometric analysis uses Google Scholar (GS) search tools for searches either solely on the romjist.ro site, or on the entire Internet as accessible through GS. We notice that these tools are imperfect. For example, searching with “Tufis” site://romjist.ro produces no results, but the author D. Tufis has a special issue he guest-edited, “Special Issue on BalkaNet Project”, D Tufis, (2004, vol. 7, no 2-3), as well as several papers (*e.g.*, The Romanian Wordnet, D Tufis, E Barbu, VB Mititelu, R Ion, L Bozianu, ROMJIST 7, 2–3, 105–122). Because of such errors, the results in this article will, unfortunately, partly reflect the limitations of GS.

Broadly, searches on Google Scholar as on October 1, 2021 and the following few days, produced: “romjist” - about 5,770 results, “romjist” “Romanian Journal of Information Science and Technology” – about 1,570 results. The members of S-IST have contributed to this journal or have otherwise their name related to the journal. The results obtained for the members of S-SIT (members not connected by Google Scholar to ROMJIST in the way shown below are not listed) are: ”romjist” and “bulucea” 2 results; “romjist” and “cristea” 8 results; “romjist” and “dumitrache” 5 results; “romjist” and “filip” 7 results; “romjist” and “mihaila” 2 results; “romjist” and “paun” - about 62 results; “romjist” and ”precup” 4 results; ”romjist” and ”stefan” 17 results; ”romjist” and ”teodorescu” 9 results; “romjist” and “tufis” 8 results; “romjist” and “voicu” 9 results; “romjist” and “tapus” or Țăpuș site:romjist.ro generates no results, but Prof. Tapus has published one paper in ROMJIST (2013, Vol. 16, No. 4, 304–323, authors M. I. Andreica, N. Tapus).

As said, Google Scholar is imperfect and fails to detect a large number of entries that were expected with the respective keywords. Somewhat better results are obtained searching with a precise source, in this case : bulucea site:romjist.ro 1 result, which is a citation; cristea site:romjist.ro 3 results, 1 paper, 2 citations; dumitrache site:romjist.ro 6 results, 1 paper; filip site:romjist.ro 8 results, 2 papers; mihaila site:romjist.ro 5 results, 2 papers; paun site:romjist.ro 42 results, numerous papers (this author has also been instrumental at the beginning of the Journal, having provided the layout, the review form, the buying of the ISSN a.s.o. [4]); precup site:romjist.ro 9 results, 2 articles; rusu site://romjist.ro produces two papers co-authored by the late member of IST Section, Prof. Adrian Rusu; stefan site:romjist.ro 29 results, at least 10 papers; teodorescu site:romjist.ro 16 results, 6 papers; tufis site:romjist.ro 4 results, 1 paper (but a search on this author’s profile, at https://scholar.google.com/citations?user=1d_Q6zwAAAAJ&hl=en&oi=ao reveals 5 papers published in ROMJIST, which shows again how unreliable is a search on GS); tecuci site: romjist.ro 1 result, 1 paper; voicu site:romjist.ro 3 results, all papers (after excluding other names “voicu” that did not correspond to the member of the Section). In several cases we excluded entries that did not correspond to a member of the Section (name coincidences, for example for Voicu or Teodorescu). Similar searches show that the founder and chief editor of ROMJIST, the late academician Dan Dascalu has published no paper in this journal, but again GS is wrong: a paper was published as D. Dascalu, From Micro- to Nano-Technologies, Vol. 2, 1–2, 1999, p. 35–48.

The above data suggest that the members of the IST Section had a consistent contribution to the publication of ROMJIST, with most members publishing one to three papers, two members have published at least five but less than 10 papers, and two members published more than 10 papers; the average number of papers for the 11 members who published papers in ROMJIST, as mentioned above, is about 4, or about one paper every 6 years. The topics of these papers are

consistent with the main scientific interests of the respective members.

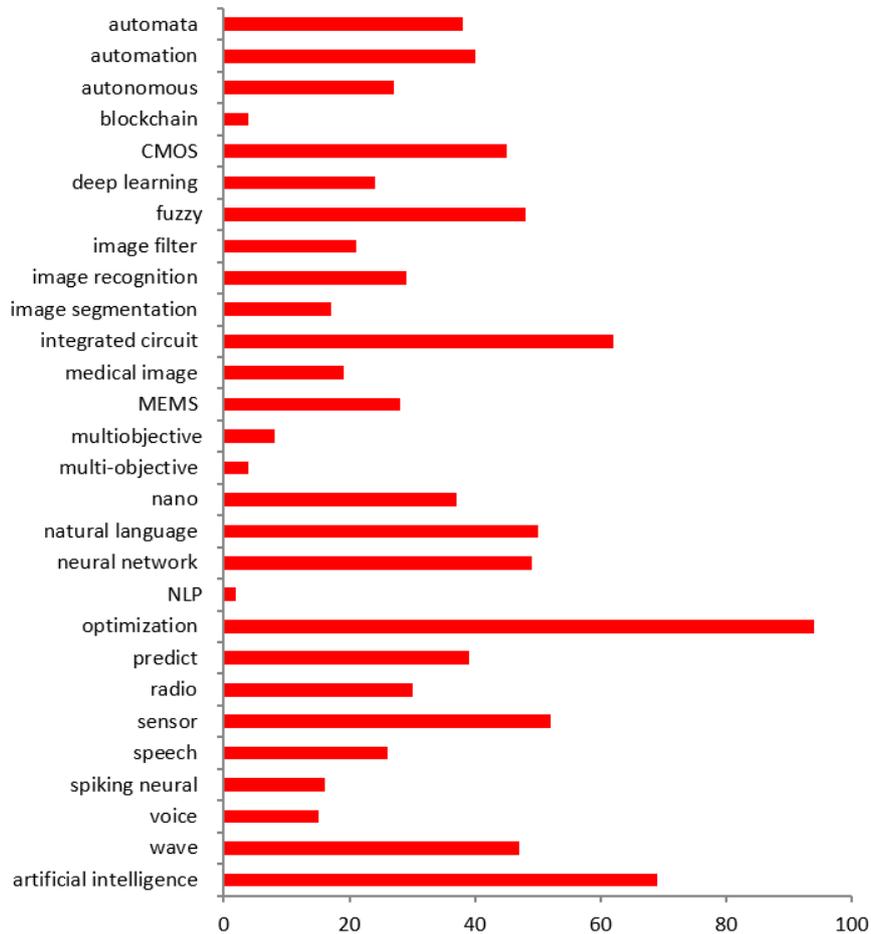


Fig. 1. Some of the most keywords in the papers in ROMJIST (excepting the most frequent ones, p-system and membrane computing, with a much larger count than any other keyword).

The analysis of the number of papers published by ROMJIST and including specified keywords (without citations) provides another perspective on the matching of the content of the journal and the interests in the IST Section, see Fig. 1. We removed from Fig. 1 the keyword “p system” (and equivalently “membrane computing”) because several years at least one issue per year was devoted to this topic, so the number of papers with this keyword (202) is an exception that stands apart. The most frequent keywords are indicative for the profile of the journal during its first 24 years. The keywords also reflect well the research interests of the members of the IST Section: optimization (of interest to F.Gh. Filip, M. Voicu, G. Tecuci, R. Precup, H.N. Teodorescu), large scale systems and decision-support system (mainly F.Gh. Filip), artificial intelligence and related keywords such as neural network, deep learning, evolutionary networks and fuzzy (I. Dumitrache, R. Precup, G. Tecuci, H.N. Teodorescu etc.), see also the special issue on fuzzy systems [5] and the article [6], text processing, natural language processing / NLP (D. Cristea, D.

Tufis, H.N. Teodorescu), membrane computing (Gh. Paun), [computation] accelerators, memory, FPGA (Gh. Stefan), cellular automata (Gh. Stefan, HN Teodorescu), and bio-medical applications of A.I. (Dumitrache, Stefan, Teodorescu), including epidemics [7]. Thus, all the members of the IST Section brought a fair contribution to ROMJIST by submitting papers to the Journal, beyond contributing to the reviewing of papers for ROMJIST.

Regarding the contributions of the two institutes of the IST Section, the Research Institute for Artificial Intelligence “Mihai Drăgănescu” (ICIA) and the Institute of Computer Science, Iași, GS provides (partial) results as: Research Institute for Artificial Intelligence site:romjist.ro 18 results, but most of them are totally unrelated (for example a paper “2D/3D heat transport maps of biological tissue in therapeutic hypothermia”, by VP Cojocaru *et al.*), “icia” site:romjist.ro 2 papers; “institute of computer science” site:romjist.ro 11 papers, four of them also found with “iit”; “iit” site:romjist.ro : 7 papers. The IST Section also have two research centers, which are affiliated with the other institutes and are not analyzed here.

3. Conclusive remarks

All the papers in this special issue are authored by the members of the S-IST and reflect their and their groups’ research interests. Consequently, the topics of the papers belong to several fields, namely automation and optimization (Filip *et al.*, Precup *et al.*, Voicu *et al.* – we name the authors who are members of the section, not necessarily the first author of the respective papers), electronics (Stefan *et al.*), and natural language processing (Tufis *et al.*). In this way, this anniversary issue mirrors in a good, although partial manner the activity of the IST Section at its 30th birthday.

The tool used for this bibliometric analysis, GS, is imperfect and despite making numerous manual searches and corrections, some GS errors surely remain in this article; without an exhaustive manual search of the contents of ROMJIST one cannot obtain a fully correct account of the contributions of the Section to the journal. Nevertheless, we hope this article at least approximately informs about the efforts of the IST Section to support ROMJIST.

Thanks should go to the colleagues from the National Institute for Research and Development in Microtechnologies - IMT Bucharest, who supported this Journal, contributed one issue per year and many papers, and helped maintaining ROMJIST at high academic standards.

This article cannot be concluded without remembering the essential contributions of the late professor and academician Mihail Drăganescu, the founder of the Section and its first President, and of the late professor and academician Dan Dascalu, the founder of ROMJIST and its Chief Editor until his unexpected death at the beginning of this year. Also, a word of tribute is due to the late members of the Section, Prof. Adrian Rusu, Dr. Victor Toma, and Prof. Marius Guran. Some of them were also (co-)authors of papers in ROMJIST and all contributed to the reviewing activities of ROMJIST.

Future work should analyze in detail the contributions to ROMJIST by authors from the two research institutes of the IST Section and the contributions of members of other sections of the Romanian Academy; moreover, future work should compare the results on GS with the results on Scopus and on World of Science databases.

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