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Editorial

Prospects for Revolutionary and Popular AI Technology following the Launch of ChatGPT in 2023

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1. Looking Back on 2023

Thanks to your continuous support, the *Electronics* journal has achieved an Impact Factor of 2.9 and a CiteScore of 4.7. In 2023, 1813 manuscripts were received, 636 of which were published, representing a rejection rate of 62.74%. The published papers included 91 completed Special Issues.

In recent years, awareness of artificial intelligence (AI) has expanded significantly as a result of social demand. Shallow neural networks, data mining, big data analytics, cloud computing, and deep learning are technologies that have been proposed, and the AI section of *Electronics* accepts papers that discuss these techniques.

2. Growth of the AI Market

The global AI market is expected to reach more than USD 2.5 trillion by 2032. This forecast is based on the emergence of tools that enable the use of AI in a wider range of fields. One example is the emergence of ChatGPT. This technology has enabled a personal AI think tank to be established using a technology called large-scale language models (LLMs), which not only increased the number of users to 200 million within just 1 year since the launch of ChatGPT, but has also led to the formation of a new language model-based AI society. However, the latest statistics from the US indicate that by 2030, the computational cost of ChatGPT will be reduced by about 90%, and AI automation is expected to increase labor productivity by 0.1–0.6% annually.

3. Policy of the AI Section

Considering this innovative progress in AI, we should accept research papers on deep structure AI based on traditional fundamental technologies that apply LLM AI to interdisciplinary areas and conduct research on diverse, large-scale AI systems.

To address these rapid changes in current AI technology, this section seeks research papers on electronics from various fields. We also expect submissions from researchers and practitioners with experience in fields such as LLMs, intelligent systems, large-scale systems, deep architecture systems, explainable AI (XAI), rule extraction technologies, cognitive systems, e-commerce, medical AI, robotics, and AI finance.

The primary focus of this section is hardware-based deep learning AI. However, it also focuses on the "black box" nature of deep neural networks and their transparency, interpretability, and explainability, as well as algorithms and/or methods for converting gradient-boosting decision trees (GBGTs, e.g., XGBoost), decision forests (e.g., random forest), and tree ensembles into a single decision tree.

Given the current ChatGPT AI revolution, I estimate an increase in the applications of ChatGPT in broader fields of electronics, and thereby, would like to receive papers on "Language model-based AI". This would allow for easy indexing in the Digital Bibliography and Library Project (DBLP), which would aid scholars working in computer science. Rigorous quality control is needed to handle the increased number of submissions and maintain a higher rejection rate.

check for updates

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4. Concluding Remarks

There appear to be two AI streams with synergistic effects. Therefore, I estimate an increase in submissions to this section. We aim to meet the demands of this new era of AI regulations, including new definitions of XAI, lighter and more interpretable GBGT and tree ensemble families, self-driving cars, various AI interface-related electronics, emotional systems, medical education, and decision-making using ChatGPT. I would like this section to contribute to the development of *Electronics* to achieve a higher impact factor, which would qualify us for indexing in the DBLP.

5. Promising Areas in AI Section

Finally, this section will address issues in emerging areas such as electronic interfaces, interactive self-driving cars, emotional systems in electronics, autonomous systems, semantic systems, health-care systems, medical imaging, and question and answer systems.

To conclude this editorial, I would like to thank all the board members, reviewers, and editorial staff members for their efforts in ensuring the success of this section. In particular, I would like to thank the editorial office for her frank and helpful advice in regard to the editorial action needed to develop this section, and Prof. Dr. Flavio Canavero for his timely decision making as the Editor-in-Chief. I am confident that 2024 will be a year of considerable progress for the AI section and *Electronics* as a whole.

Conflicts of Interest: The author declares no conflicts of interest.

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