Editorial to the 2024 Summer Issue

Welcome to the second issue of the third volume of the Safety-Critical Systems eJournal, published by the Safety-Critical Systems Club (SCSC) with Publication Number SCSC-196.

Last year, a correspondent wrote saying of this journal, "*If you can get through two years, you're doing OK. Three years and you're 'established'*". This is the final issue of that third year, so I hope that we are now indeed established. I would like to get to the point where there is always a (small) number of papers in the pipeline, so that the finished ones can get published in the next issue, and the others can be reworked with less time pressure than at present. I will be posting a call for new papers on LinkedIn, as well as writing directly to some potential authors.

We also need additional reviewers to expand our pool of talent, not only subject matter experts, but those with broad experience across many aspects of safety engineering and assurance. If you wish to take part, please register your interest on the web-site at: https://scsc.uk/journal/index.php/scsj/user/register. I intend to contact the current set of reviewers to ensure both that their registered e-mail address and list of specialist topics are still valid.

This issue contains three papers (one of which was postponed from the previous issue):

- Peter Ladkin (Germany) examines a guidance document prepared by ISO and IEC working groups on functional safety in the presence of "Artificial Intelligence" sub-systems in his paper "*Functional Safety and Oracular Subsystems: An Observation on ISO/IEC TR 5469: Artificial Intelligence — Functional safety and AI*". He considers critically the way the guidance expects AI subsystems to be interpreted architecturally and behaviourally, through considering the example of adaptive control. He also proposes some concepts which may be useful in characterising such subsystems.
- Niki Mok (UK) addresses alertness and attention of operators in safety-critical systems, in particular train drivers. In "*System Analysis on Driver Monitoring System for Mainline Railway*", she suggests new capabilities to augment the existing vigilance system for UK mainline passenger trains This paper was the basis of her presentation on day 2 of the last Safety Critical Systems Symposium in Bristol, SSS'24; see https://scsc.uk/re1007.76:1.
- Amit Sahu and Carmen Carlan (Germany) present "*Towards Defect-based Testing for Safety-critical ML Components", i*n which they propose a process for collecting adequate test data for Machine Learning components used in safety-critical applications. Two case studies are used to illustrate the method: stop sign recognition and railway track segmentation — both are implemented using ML components.

As ever, my thanks go to the authors for contributing their papers, and also to the anonymous peer-reviewers (at least three per paper) for suggesting improvements. Apologies also to those reviewers who made some recommendations that were not taken up.

Please also support the Club's Working Groups, which, *inter alia*, share industry best practice, develop guidance documents, and influence the development of standards. If you would like to find out more about these groups, please go to https://scsc.uk/g, which includes contact details.

John Spriggs, SCSC Journal Editor
July 2024

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