We would like to thank the reviewers for their feedback, it has been useful to improve the quality of the manuscript. All the concerns have been addressed in the updated version, follows a detailed answer for each comment:

1. It is a good practice when Introduction is ended with a brief description of the article's structure. Some text like "The article is organized as follows. Section 1 is devoted to ... In section 2 we ... Section 3 contains ... Conclusion summarizes the study and points directions for further work." is highly desirable.
The suggested paragraph has been added.

FORMATTING
1. In the article's title, first letter of each word should be capitalized (with the exception of conjunctions, prepositions, etc.).
Title updated with capitalized letters.

2. Keywords should start with lowercase.
Keywords updated.

3. Use abbreviations "Fig." and "Tab." for cross references to figures and tables respectively (with the exclusion of the case when the word starts sentence).
Abbreviations for Figure and Table replace full words.

4. Too small and poorly recognized font size in Fig. 9, 10 need to be increased (to be comparable with footnote font size).
We have increased the font size of such figures to better appreciate it.

REFERENCES AND REFERENCE LIST
1. Preprints (i.e. materials from ArXiv, ResearchGate portals, etc.) [2, 6, 11, 15, 25] should not be cited and must be replaced by the references to the articles or papers from peer-reviewed journals and/or proceedings.
We checked all these publications and they still have no peer-reviewed version.

2. Please use \textit{et al.} after the last names and initials of the first three authors if a reference has more than four authors [3, 7-9, 11, 14, 18, 21, 22, 27, 29, 30].
The authors are not allowed to modify the references style provided by the journal.

3. Correct a wrong formatting of online documents [28], cf. https://superfri.org/superfri/about/submissions#authorGuidelines (section REFERENCES AND REFERENCE LIST).
Fixed reference [28], now reference [2]

4. Provide DOI for each reference in reference list (where applicable) according to the Author guidelines, cf. https://superfri.org/superfri/about/submissions#authorGuidelines (section REFERENCES AND REFERENCE LIST). Please use digital libraries (e.g.

https://dblp.org/, https://dl.acm.org/, https://ieeexplore.ieee.org/, etc.)
or CrossRef (https://search.crossref.org/) to find DOIs. If you use BibTeX
you should prepare .bib file(s) with doi field according to the examples of
bibtex records and then apply superfri.bst file (is included in SuperFrI's
LaTeX macro package and automatically formats reference list). If you do not
use BibTeX, you should find DOIs and then format references manually
according to the examples.
We have included all the DOI links to references containing it. In some cases, the DOI was not available for such citation, so it was not included.

Reviewer C:

Comments to the Author and Editor. Continue on additional sheets if
necessary.: n general, this paper seems to be in two parts One related to DL and the
other related to HPC benchmark. The motivation of this combination is not
well addressed. Why is important to evaluate the time/HPC performance with
different image sizes and with this specific architecture?
Unlike regular DL training, using images of variable sizes avoids pattern deformation, an interesting property that improves performance on some tasks. This property is attracting attention in the DL field, so it is interesting to evaluate time/HPC performance in this new setting.

in the end, you use "seconds per Megapixel". Could be interesting to see in detail your
performance results(acc, loss, AUC) and discuss how much this "extra work"
improves the training performance.
In the reference paper [x], there is an entire study showing the benefits of using HR&VS MAMe images in terms of model performance (Accuracy and Loss). In this publication, we study the impact on time/HPC performance of using HR&VS images over regular training using downsampled images. Combining both studies would be interesting and, indeed, we plan to work on this in a near future..

Please see the comments below

The title is not clear. The digital image has three resolutions: time,
dynamic range, and spatial. In addition, the words "under original" sounds
like a raw Spanish translation.
We have changed the title to address the reviewer concerns.

In the abstract I see two disconnected parts

"One of the purposes of HPC benchmarks is to identify limitations and
bottlenecks in hardware. This functionality is particularly influential
when assessing performance on emerging tasks, the nature and requirements of
which may not yet be fully understood. In this setting, a proper benchmark
can steer the design of next generation hardware by properly identifying

said requirements, and quicken the deployment of novel solutions."

And the
"With the increasing popularity of deep learning workloads, benchmarks for this family of tasks have been gaining popularity. Particularly For image based tasks, which rely on the most well established family of deep learning models:Convolutional Neural Networks. Significantly, most benchmarks for CNN use low-resolution and fixed-shape (LR&FS) images. While this sort of inputs have been very successful for certain pur-poses, they are insufficient for some domains of special interest (e.g., medical image diagnosis or autonomous driving) where one requires higher resolutions and variable-shape (HR&VS) images to avoid loss of information and deformation. As of today, it is still unclear how does image resolution and shape variability affect the nature of the problem from a computational perspective. In this paper we assess the differences between training with LR&FS and HR&VS, as means to justify the importance of building benchmarks specific for the latter. Our results on three different HPCclusters show significant variations in time, resources and memory management, highlighting the differences between LR&FS and HR&VS image deep learning."

In the introduction. This paragraph don't have any citation, please add some references

Variable shape is challenging to deal with, particularly in the context of batch training. All Images in a batch need to have the exact same shape to be computed, and when your data is of VS, the easiest way to achieve a uniform shape without deformation or loss of information is through padding. Padding is a technique to extend the size of an image by adding fixed-values pixels (e.g., zeros), and it can be used to fill the gaps between images of different shape found in the same batch. However, padding is something to be minimized for several reasons. First, it introduces noise (i.e., non-informative pixels) which can affect the learning process. Second, it increases the computational cost of the task, as padding pixels are also computed by the CNN. And third, padding increases the memory requirement of the task, as these values still need to be kept in memory. To complicate things even further, random batching in a VS problem can result in landscape and portrait images batched together. This entails huge amounts of padding, to the point where more padding than informative pixels may remain in the batch.
We have included a citation to reference the importance of minimizing padding.

In the related work, I don't see a strong connection with the motivation of this paper.
In the experiment and result section. Why you only evaluate the performance in the training and not in the inference process. Could be great to see a box plot in your result section instead of scatter plots.

Usually the training is a much more exhaustive process than inference, and for this very same reason we focus on the former. It would be interesting to check the hardware performance on the inference process too, although this is out of scope for this work.

Reviewer D:

Adequacy to JSFI: Good

Technical-professional content, original, logic of presentation: Excellent

Originality and novelty of the content: Good

Programming examples complete, well organized: Good

Writing style, length, clarity of presentation, acceptable English: Good

Adequacy of figures: Excellent

Adequacy of references: Excellent

Appropriate for and of sufficient importance and interest to publish: Good

Title and keywords appropriate and informative: Excellent

Is the abstract an adequate summary of the paper?: Excellent

Comments to the Author and Editor. Continue on additional sheets if necessary.: Conclusions and Future work need further work. They are speculative, the third paragraph needs to be reshuffled.
We have re-wrote the third paragraph in conclusions, and hope it is more readable now.

Please, make a better discussion of this sentence "We have seen that LR&FS and MR&VS suffer more from cache data eviction from shared LLC than HR&VS. While HR&VS can benefit from larger caches."
We have extended the discussion and improved some explanations in this part.

Minor comments: Please correct multiple errors in the references (e.g 4 and 10). There are a few among the references, like 11 and 16, that come from ArXiv, please check if they are now regular papers.
We fixed the mentioned publications, and checked that the publications from ArXiv still have no peer-reviewed version.