

Bare Advanced Demo of IEEEtran.cls for Computer Society Journals

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Abstract—The abstract goes here.

Index Terms—Computer Society, IEEEtran, journal, L^AT_EX, paper, template.

1 INTRODUCTION

Recent developments start to show a modest but solid deviation to the well-known Gordon Moore's 40-year old law that talks about performance improvement in CPU processing power. Even though the mentioned law got several interpretations, only one seems to be able to keep up with the projected trend: the increase in number of transistor per die area (expected to double every 18-24 months). However, as we approach the limits of current Silicon manufacturing technologies, even that trend is threatened to flatten, not only because of the pure physical constraints (we are reaching manufacturing precisions of atoms), but also because of the more significant quantum phenomena that starts to be exhibited when talking about devices like SET (single-electron transistors).

One of the most important aspects left aside in the childhood of computing ages was the memory-barrier, probably the biggest constraint a computing system faces nowadays. There is a well known chart that addresses this issue, which shows that the memory - CPU gap also grows at an exponential rate. In other terms, this issue has a massive impact in CPU

performance and further threatens to clutter the horizon of exponential innovation for the field of artificial intelligence and computing systems.

The complexity of the issue grows further with recent developments with heterogeneous SoC, because of integrating a bandwidth-hungry multi-core GPU on the same die. Although a higher level of integration can provide improvements in many areas, such as portability, power-efficiency and cost-efficiency, the bandwidth and latency challenges still remain and can truly bottleneck one of the two main components, regarding the provided scenario.

1.1 Subsection Heading Here

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1.1.1 Subsubsection Heading Here

Subsubsection text here.

2 PROBLEMS

The conclusion goes here. Reference ??

3 SOLUTIONS

Write here something about the discovered (eventually tested in our papers) solutions.

4 PERSPECTIVES

Write here perspectives (maybe of our own ideas).

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5 CONCLUSION

Drop the memory. It's slow anyway

APPENDIX A PROOF OF THE FIRST ZONKLAR EQUATION

Appendix one text goes here.

APPENDIX B

Appendix two text goes here.

ACKNOWLEDGMENTS

The authors would like to thank...

REFERENCES

- [1] H. Kopka and P. W. Daly, *A Guide to L^AT_EX*, 3rd ed. Harlow, England: Addison-Wesley, 1999.



Michael Shell Biography text here.

John Doe Biography text here.

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