



New Opportunities for Computer Architecture Research

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Things not to do ...

- Follow the industry trend of the year
- Tweaks on the same basic frameworks
- Partition the problem into skill buckets
- Only talk with other academic researchers
- Expect quick adoption and movement



A few thoughts to consider...

- Abstraction and compatibility
 - Envision the “*7-layer ISO model for computing*”
- System-level ISA
 - Think *page ops, table lookups, transforms, etc*
- Coprocessor enablement
 - “*It’s the synchronization, stupid*”
- Scarcity versus abundance
 - Abundant: *transistors, designers, raw FLOPs*
 - Scarce: *pwr-eff, bw-eff, TTM, flexibility, programmer productivity*