Enabling Pareto Improvements for Any Services: The Succincter Cluster Architecture
(Preprint Abstract)

Xiaoxing Ming Xiangjun Peng[‡]

Abstract

This paper describes the architecture of Succincters' cluster architecture, which allows Pareto improvements among the performance, the power consumption, the security (and privacy) and the quality-of-services at the same time. The key insight behind our work is a systematic approach, to adopt the "Indexes ≈ Values" principle with the modern computing stack, with minimal efforts. This architecture motivates a ground-up retrospection on the transformation hierarchy from electrons to the end user, including the hardware design, software stack and their interactions. To further adapt the above insights, we also disclose two ongoing works (the Mixture Processor; and the θ Lakehouse).

*Note that [‡]refers the affiliation to *The Chinese University of Hong Kong.*