**E-Tree: An Ever-Evolving Tree for Evolving Workloads**

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**Key Idea:** Mixed memory layouts for mixed workloads across different key/value subranges

**By tracking access patterns, subtrees dynamically reshape**

**Low Overhead**
Simple counters on each node with sampling

**Automatic Optimality**
Convergence to optimal memory layout

**Flexible**
No restriction on concurrency or operations

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**Setup:** 2 billion key/value pairs, with queries to key subranges either read-skewed or write-skewed

**Split workloads:** the more skewed the subranges, the better E-Tree performs

**Shifting workloads:** E-Tree adapts to new access patterns

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**T₀: 95% Writes/5% Read**

**T₁: 70% Writes/30% Reads**

**T₂: 40% Writes/60% Reads**

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**E-Tree**

**B⁺-Tree**

**Cache-Conscious Tree**

**Best of Both Worlds**

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