RAS-Directed Instruction Prefetching (RDIP)

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Why another instruction prefetcher?

- Poor I$ behavior affects modern workloads
- Cache size constraints \(\rightarrow\) Prefetching

Our Goal: Low overhead, high accuracy instruction prefetcher
Contributions

• I$ misses correlate to program context
• Program contexts are repetitive $\rightarrow$ predictable
• RAS succinctly captures program context
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Performance improvement of 11.5%
Overhead of 64kB (3X ↓)