

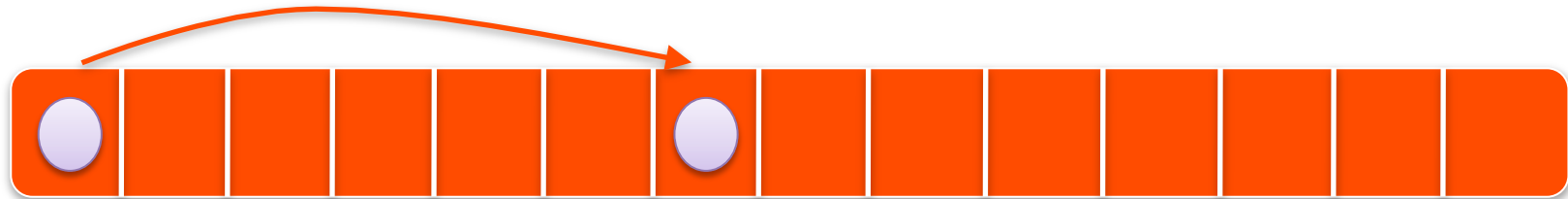
# Linearizing Irregular Memory Accesses for Improved Correlated Prefetching

Akanksha Jain, Calvin Lin  
University of Texas at Austin

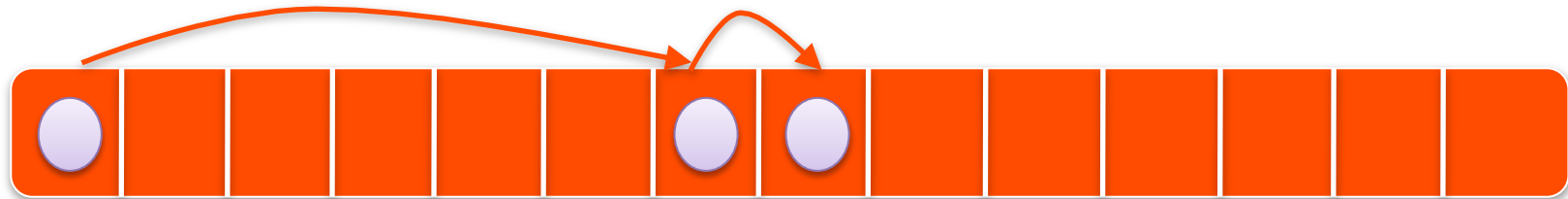
# The Problem : Irregular Prefetching



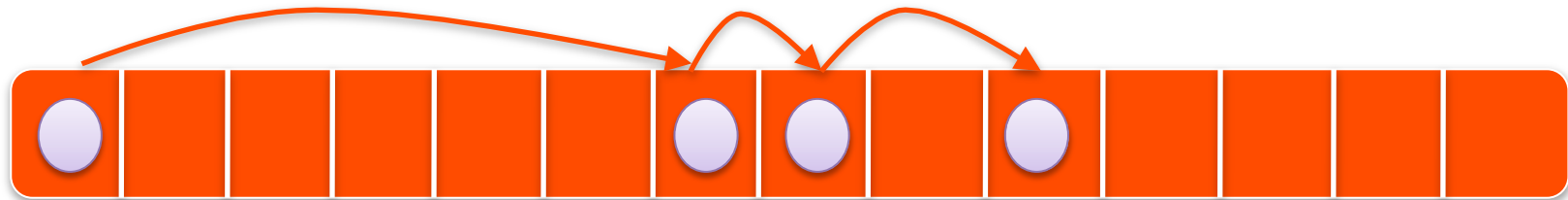
# The Problem : Irregular Prefetching



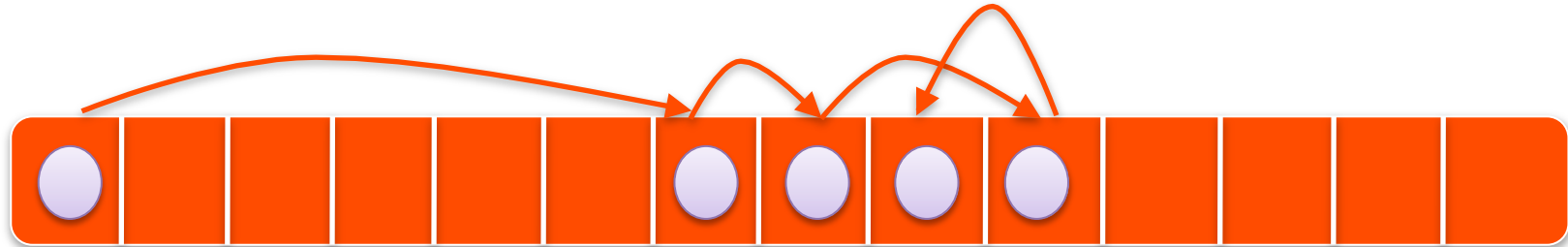
# The Problem : Irregular Prefetching



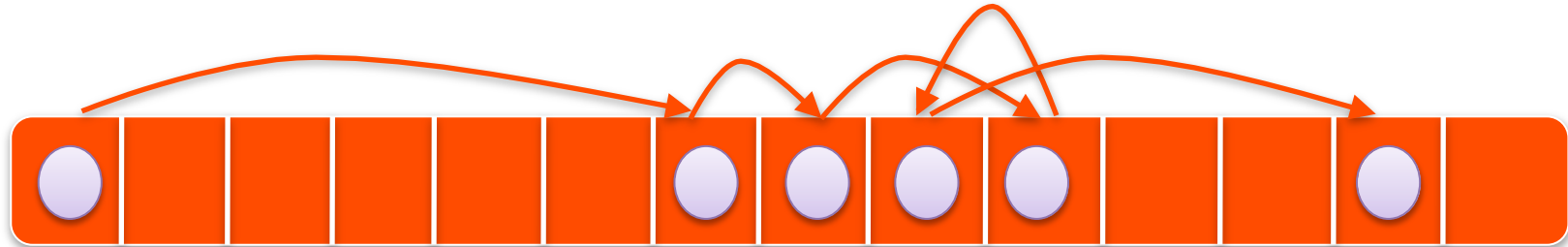
# The Problem : Irregular Prefetching



# The Problem : Irregular Prefetching



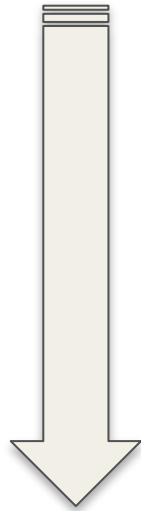
# The Problem : Irregular Prefetching



# Our Solution : Transformation



Irregular  
Prefetching



Regular  
Prefetching

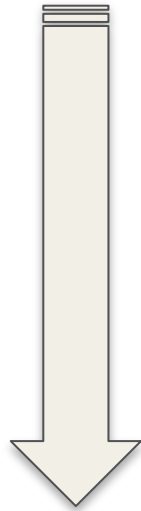




# Our Solution : Transformation



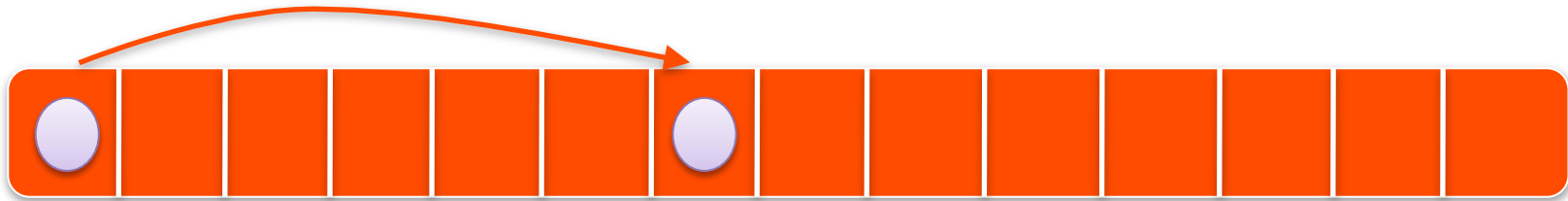
Irregular  
Prefetching



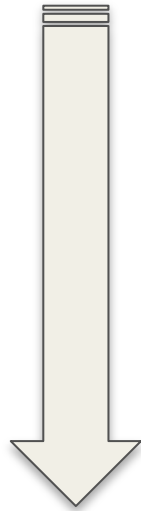
Regular  
Prefetching



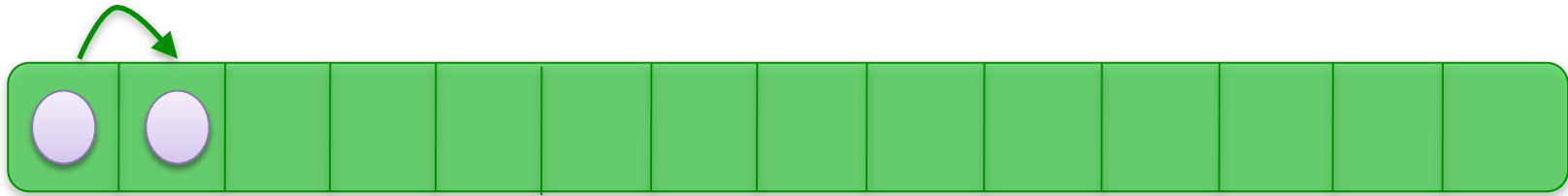
# Our Solution : Transformation



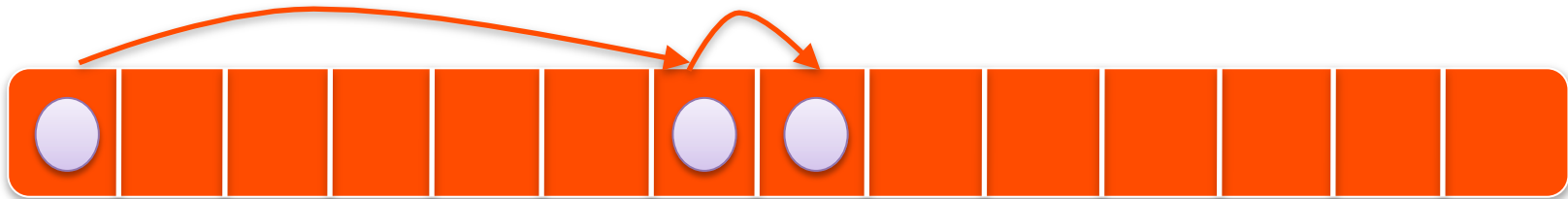
Irregular  
Prefetching



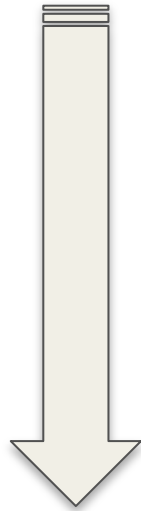
Regular  
Prefetching



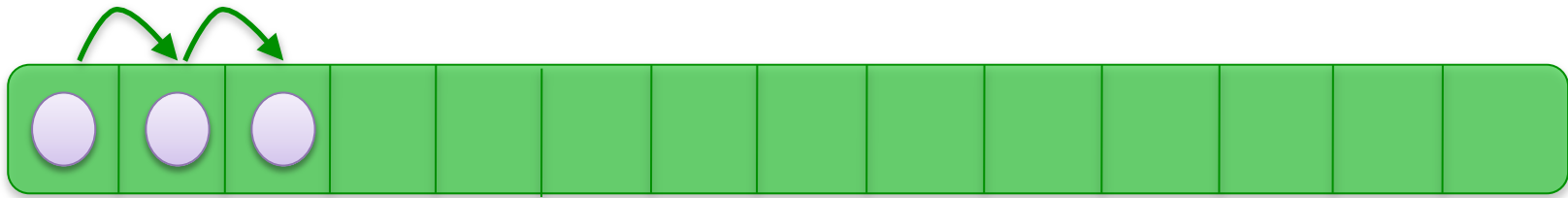
# Our Solution : Transformation



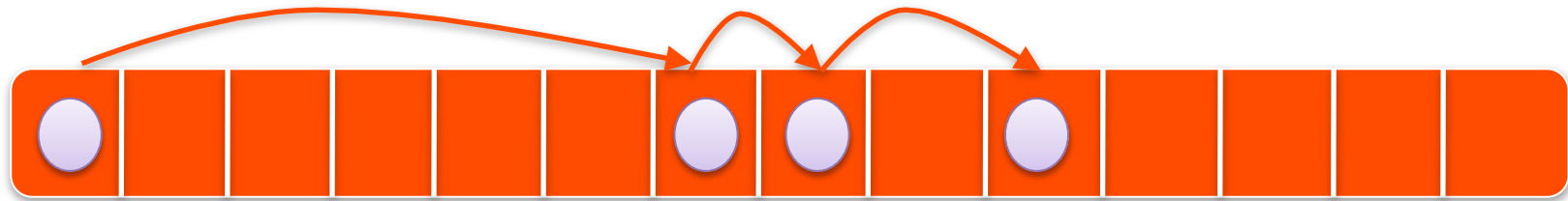
Irregular  
Prefetching



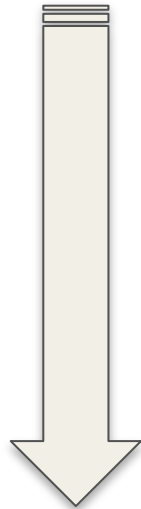
Regular  
Prefetching



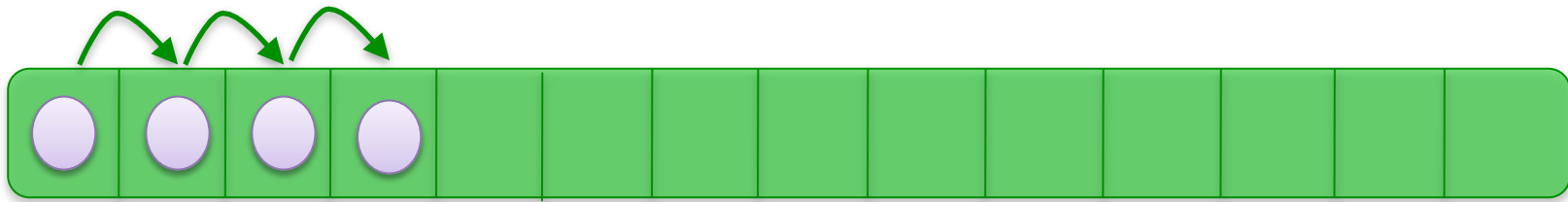
# Our Solution : Transformation



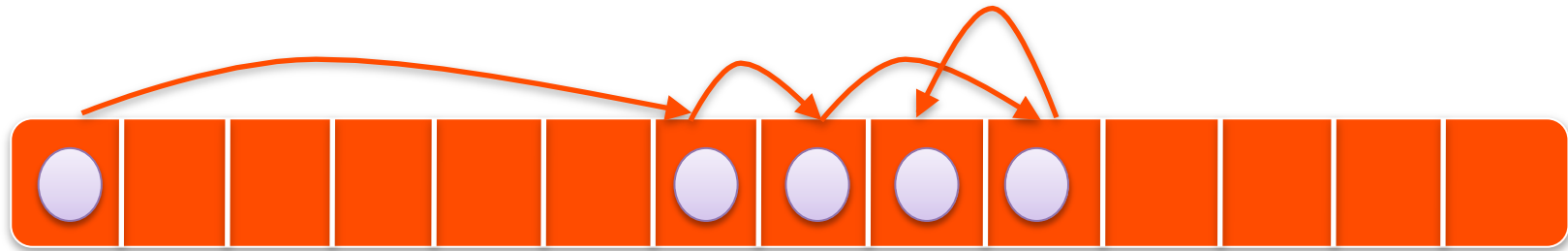
Irregular  
Prefetching



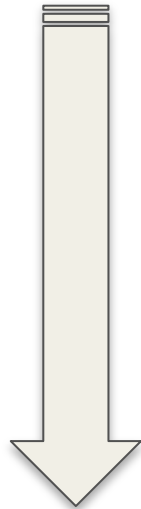
Regular  
Prefetching



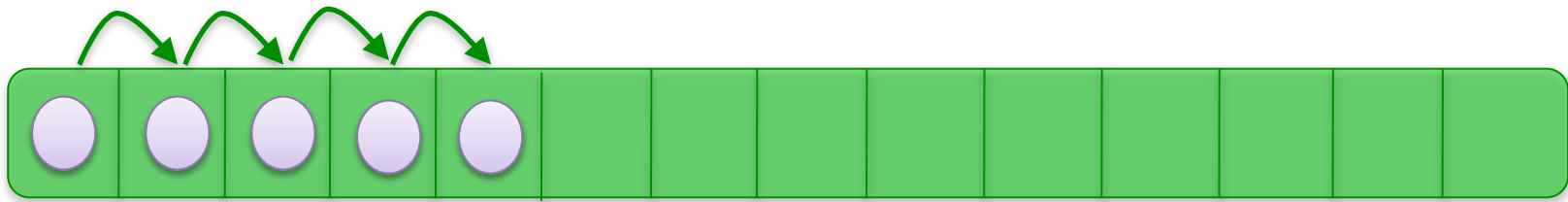
# Our Solution : Transformation



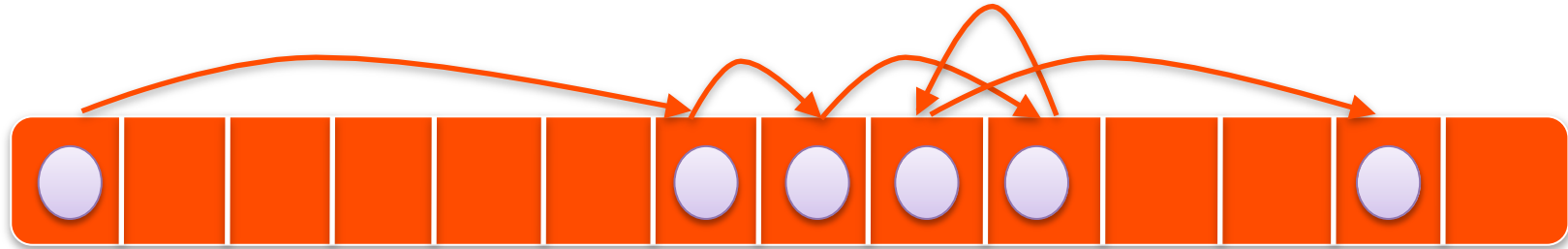
Irregular  
Prefetching



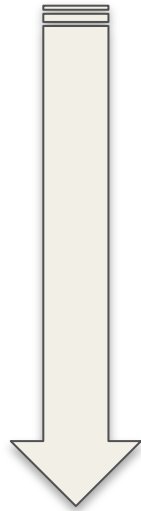
Regular  
Prefetching



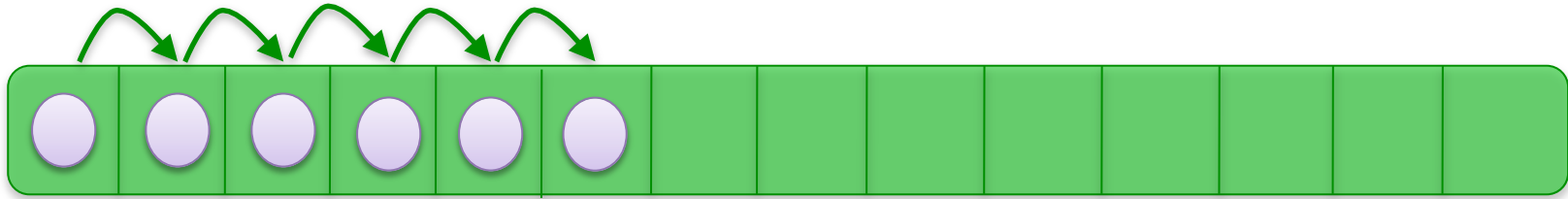
# Our Solution : Transformation



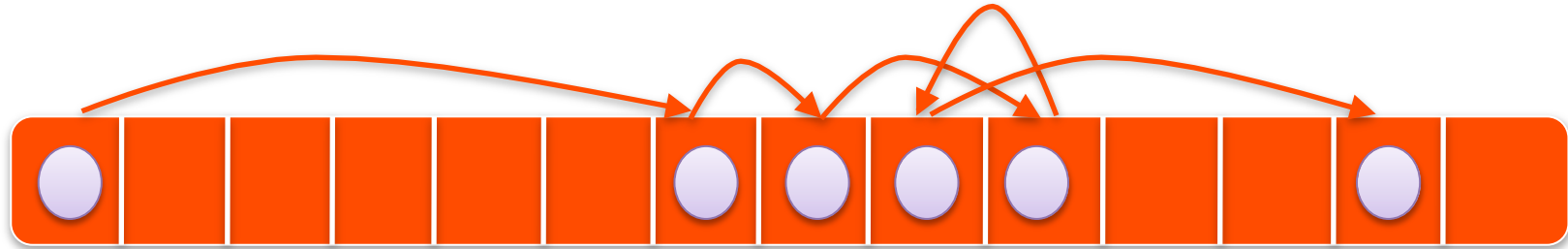
Irregular  
Prefetching



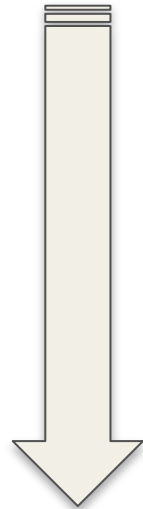
Regular  
Prefetching



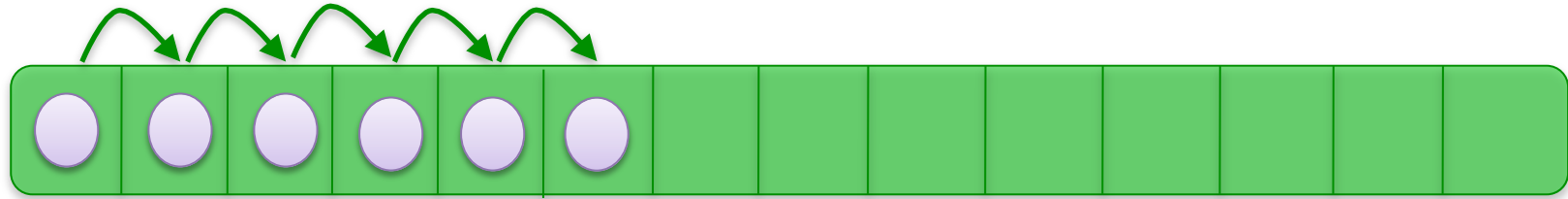
# Our Solution : Transformation



Irregular  
Prefetching



Regular  
Prefetching



	<b>Previous Best</b>	<b>Our Solution</b>
Speedup	8.3%	23.1%
Accuracy	58.6%	93.7%